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ALLISON PD370-41 DERIVATIVE TURBOPROP ENGINE.(U)
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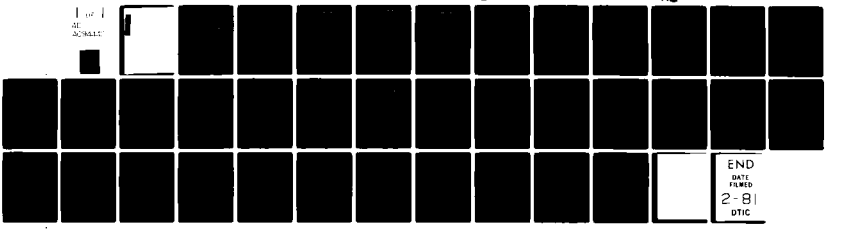

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This study developed data on Detroit Diesel Allison (DDA) common core derivative engines for use in Maritime Patrol Aircraft (MPA) concept formulation studies. The study included the screening of potential DDA turboprop/turboshaft engines and the preparation of technical and planning information on three of the most promising engine candidates plus an all new engine. Screening of DDA derivative candidates was performed utilizing an analytical MPA model using synthesized mission profiles to rank the candidates in terms

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of fuel consumption, weight, cost and complexity. The three turboprop engines selected for further study were as follows: a derivative of the unity size T701-AD-700 shaft power engine with rematched turbine (PD 370-37), an advanced T701 turboprop derivative with 25:1 overall pressure ratio and a scaled ATEGG demonstrated compressor (PD 370-40), an advanced T701 turboprop derivative with 17.7:1 overall pressure ratio and a scaled ATEGG demonstrated compressor (PD 370-41). Data is also presented on a new advanced turboprop engine with 30:1 overall pressure ratio which incorporates compressor, combustor, turbine, and cooling technology now under development and demonstration at DDA. The documentation consists of six seperate reports prepared in the following manner. One report summarizes the engine screening analysis and describes the approach to, and the conclusions of the study. A separate report for each of the three derivative engines and for the new turboprop present estimates of performance, weight, and dimensional data. The engineering budgetary estimates of the development, acquisition, and service costs for each of the four engines are presented in a separate report.

Detroit Diesel Allison
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Detroit Diesel Allison
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I. INTRODUCTION

This report presents estimates of performance, weight, and dimensional data for the PD 370-41 turboprop engine. The PD 370-41 represents an advanced T701 turboprop derivative engine with 17.7:1 overall pressure ratio. It incorporates a scaled ATEGG demonstrated compressor with basic shaft, bearing and turbine arrangements from the new T701 turboshaft engine. The engine is in the 10,000 to 11,000 SHP class. The data is submitted for use in preliminary design type studies in the evaluation of turboprop systems.

The basic T701 engine is a free turbine turboshaft engine that was developed through safety demonstration testing, for the U.S. Army's HLH program. The model 570, a commercial industrial version of the T701, has undergone additional development testing, and is now in production.

The reduction gearbox for speed reduction to the prop-fan is a new simplified design, compared to the DDA T56 series of gearboxes. The new design is based upon a study into the reliability and maintenance cost history of past turboprop systems, and follows the recommendations of that study for a gearbox with high reliability, easy maintainability, and low maintenance costs.

II. ENGINE DESCRIPTION

The Model PD 370-41 is an axial flow engine, having a single spool core and a free power turbine connected by shafting, and supporting structure to an offset reduction gear assembly. The general arrangement and external features of the engine are shown in Figure II-1, with principle physical characteristics listed in Table II-I. Output speed of the engine is constant at 10,600 RPM. The reduction gearbox shown in Figure II-1 has an overall gear ratio of 8.52:1, providing a propfan speed of 1244 rpm at 10,600 engine rpm. Parametric weight data is shown in Section III so that other propfan rotational speeds, and gear ratios can be analyzed. An aircraft accessory drive pad is provided on the back of the gearbox to drive an aircraft mounted accessory drive box. Power available at this pad is 500 HP at 8000 rpm. The primary engine mounts are on the gearbox with a hang mount at the rear of the engine. Engine accessories are driven by a bevel drive from the high pressure spool. The control system is integral with the prop-fan and is digital electronic. The oil system is integral to the engine and also supplies the prop-fan and reduction gearbox, but is separately filtered and monitored to isolate fault detection in each of these major modules. Engine torque is measured hydraulically from the gear thrust of the power train idler gears in the reduction gearbox.

The gearbox is shown offset, based upon DDA's experience with large turboprop engines. It is offset up to be consistent with current studies showing a preference to under-the-wing engine mounting. It can also be supplied in the offset-down position.

Performance ratings, sea level static, are listed in Table II-II.

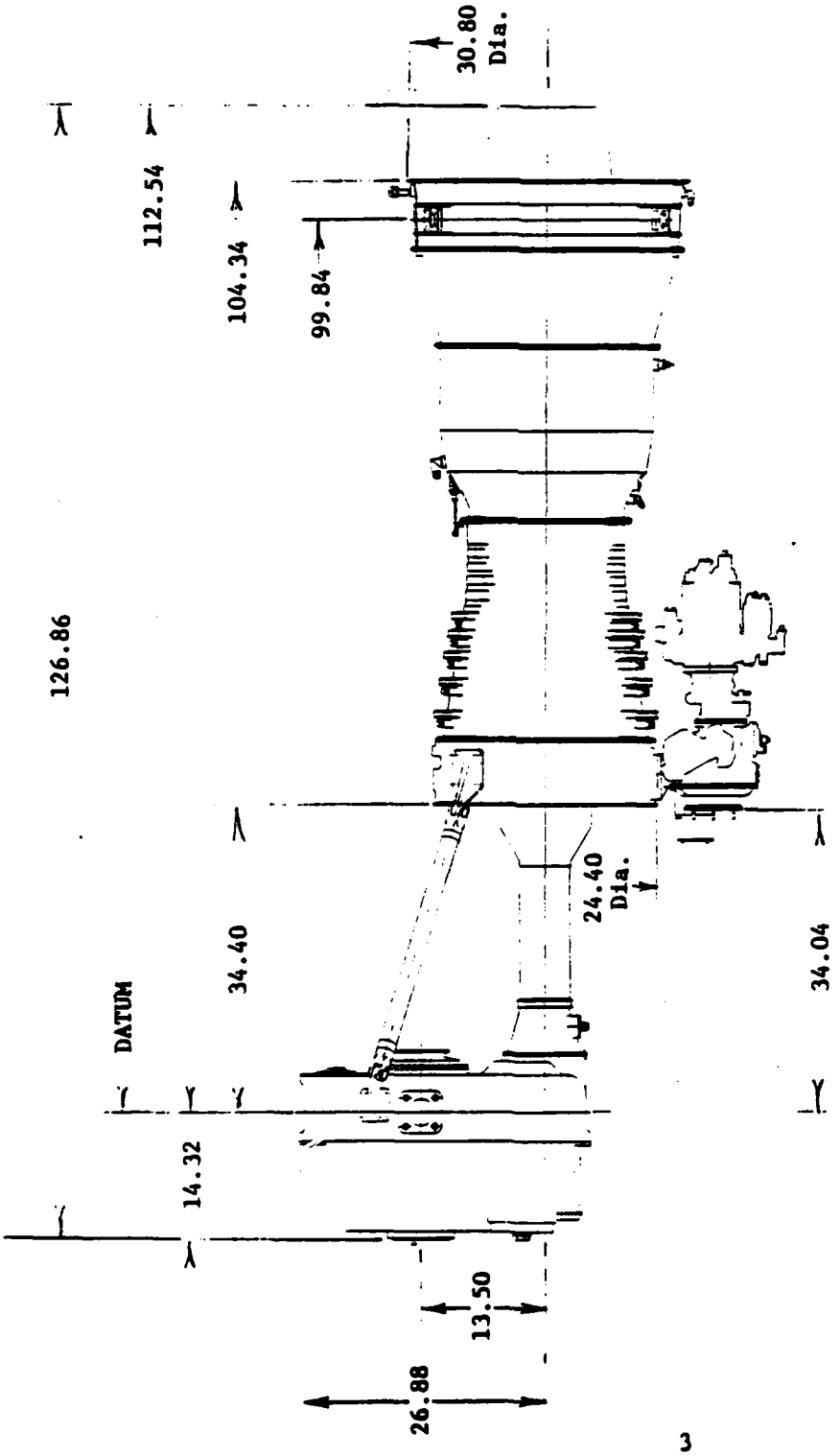

Figure II-1. PD370-41 General Arrangement

TABLE II-I

PD 370-41 PHYSICAL CHARACTERISTICS

(Includes Gearbox)

Length (in)	126.86
Max. Engine Diameter (in)	30.80
Max. Gearbox Offset, upward (in)	26.88
Dry Weight, lbs	
Engine	1503
Gearbox, including interconnecting struts and shaft	634
Total	2137

For gear ratios other than 8.52:1 the reduction gearbox dimensions may be scaled as follows:

$$\text{Dimensions} = \text{Base dim.} \times \left(\frac{GR}{8.52}\right)^{0.33}$$

TABLE II-II

PD370-41 PERFORMANCE SUMMARY

Sea Level, 0 kts

	Standard Day			Hot Day, 89.8°F		
	SHP	SFC	F_N	SHP	SFC	F_N
Take-Off	10,974	0.389	1,247	9,114	0.407	997
Max. Continuous	8,133	0.409	908	6,713	0.432	738

III. WEIGHTS

The weight of the engine, gearbox, and the interconnecting struts and shaft are given in Table III-I. The gearbox weight is based upon a gear ratio of 8.52:1 which provides a propfan speed of 1244 rpm.

TABLE III-I

PD 370-41 WEIGHTS

	Dry	Wet*	Installed
Basic Engine, lbs	1503	1526	1526
Gearbox, lbs	598	641	641
Interconnecting Struts and Shaft, lbs	36	36	36
Total, lbs	2137	2203	2203

* Includes total amount of oil required for engine and gearbox operation.

For gear ratios other than 8.52:1, the gearbox, interconnecting strut, and shaft dry weight may be estimated as follows:

$$\text{Dry gearbox weight} = 598 \times \left(\frac{GR}{8.52}\right)^{0.4}$$

Interconnecting struts and shaft weight = 6.0% of dry gearbox weight

IV. STEADY STATE PERFORMANCE

Steady state performance data is tabulated in this section for all points shown in Figure IV-1. Basic engine data is shown for the following assumptions:

- Uninstalled engine
- ICAO standard atmosphere except for takeoff which in addition includes an ambient temperature of 89.8°F at standard atmosphere
- 100% inlet recovery
- Zero accessory horsepower extraction
- Zero customer bleed extraction
- Zero losses due to reduction gear
- Fuel heating value - 18,400 Btu/lb
- Estimated average engine performance - No SHP or fuel flow guarantee factors

Sensitivity data is provided for each point so that bleed and duct losses may be estimated as required.

Nomenclature

Nomenclature used in the tabulation of performance is as follows:

MACH	Mach number
SHP	Shaft horsepower
SFC	Specific fuel consumption, lbs/hr/hp
WF	Engine fuel flow, lbs/hr
FN	Net jet thrust, lbs (jet gross thrust - ram drag)
ESHP	Equivalent shaft horsepower (energy in jet stream converted ideally to horsepower and added to SHP)
WCIN	Total inlet corrected airflow, $W\sqrt{\theta_1}/\delta_1$

where: $\theta_1 = \dfrac{\text{Engine inlet total temp, } ^\circ R}{518.688}$

$$\delta_1 = \frac{\text{Engine inlet total pressure, psi}}{14.696}$$

TNOZ	Jet nozzle total temperature, ^{o}R
PNOZ	Jet nozzle total pressure, psi
RC	Compressor pressure ratio
BOT	Burner outlet temperature, ^{o}R
NO	Point number

Sensitivity Data

Bleed:

SHP, with bleed = SHP, no bleed - (DEL SHP)(% bleed)

WF, with bleed = WF, no bleed - (DEL WF)(% bleed)

FN, with bleed = FN, no bleed - (DEL FN)(% bleed)

Inlet Recovery:

η_R = Total pressure actual/Total pressure ideal

SHP, with recovery = SHP, ideal recovery - (DEL SHP)$(1 - \eta_R)(100)$

WF, with recovery = WF, ideal recovery (η_R)

FN, with recovery = FN, ideal recovery - (DEL FN)$(1 - \eta_R)(100)$

Jet Nozzle Duct Loss:

To estimate thrust loss due to additional duct loss prior to the jet nozzle, use the following equation:

$$\text{FN, with loss} = \text{FN, without loss} - \text{FN, without loss } (K)\left(\frac{\Delta P}{P}\right)$$

where,

- o K is obtained for each point from sensitivity data
- o $\frac{\Delta P}{P} = \frac{\text{PTOT, no loss} - \text{PTOT, total loss}}{\text{PTOT, no loss}}$

Reduction Gear Loss:

Reduction gear is 99 percent efficient.

Accessory Drive Losses:

Accessory drive power extraction is directly from the accessory drive pad on the reduction gearbox. Reduce SHP to prop-fan by amount of accessory power extraction at each point.

Nozzle Throat Area

The effective nozzle throat area is constant for all conditions at 398.4 in^2.

Standard and Hot Day; Takeoff and Maximum Continuous

Altitude ($Ft \times 10^{-3}$)	MACH Number 0	.1	.2	.3
0	X	X	X	X

Standard Day; Maximum Climb, Maximum Continuous and Part Power to Idle

Altitude ($Ft \times 10^{-3}$)	MACH Number .2	.3	.4	.5	.6	.7	.75	.8
0	X	X	X	X	X	X	X	X
5	X	X	X	X	X			
10	X	X	X	X	X	X	X	X
15		X	X	X	X	X	X	X
20			X	X	X	X	X	X
25			X	X	X	X	X	X
30				X	X	X	X	X
35				X	X	X	X	X
40				X	X	X	X	X
45				X	X	X	X	X

Figure IV-1. Matrix of flight conditions for performance data

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PD370-41 TURBOPROP

ZERO BLEED — 100 PERCENT RECOVERY — ZERO POWER EXTRACTION

STD DAY

0 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
TO	0.0	10975.	0.389	4266.	1247.1	11825.	54.0	1507.	16.36	17.7	0001
M.C.	0.0	8132.	0.409	3328.	907.9	8648.	47.3	1433.	15.89	16.9	0002
TO	0.10	11026.	0.388	4277.	1067.3	11884.	53.9	1506.	16.37	17.6	0003
M.C.	0.10	8172.	0.408	3337.	749.1	8693.	47.1	1433.	15.90	16.9	0004
TO	0.20	11176.	0.386	4309.	896.2	12054.	53.4	1504.	16.40	17.4	0005
M.C.	0.20	8305.	0.405	3363.	597.1	8838.	46.8	1430.	15.92	16.7	0006
TO	0.30	11425.	0.382	4361.	732.5	12338.	52.6	1501.	16.44	17.1	0007
M.C.	0.30	8520.	0.400	3409.	450.7	9077.	46.1	1426.	15.95	16.4	0008

T AMBIENT = 89.8°F

0 FEET ALTITUDE

TO	0.0	9114.	0.407	3711.	996.6	9729.	49.1	1542.	16.01	15.7	0009
M.C.	0.0	6713.	0.432	2903.	738.7	7098.	43.2	1469.	15.66	13.3	0010
TO	0.10	9159.	0.406	3720.	839.4	9783.	49.0	1541.	16.03	15.6	0011
M.C.	0.10	6749.	0.431	2911.	591.8	7136.	43.1	1469.	15.67	13.2	0012
TO	0.20	9300.	0.403	3749.	679.3	9941.	48.6	1539.	16.05	15.4	0013
M.C.	0.20	6877.	0.427	2937.	453.3	7276.	42.8	1465.	15.69	13.1	0014
TO	0.30	9541.	0.398	3799.	529.1	10210.	48.0	1534.	16.09	15.2	0015
M.C.	0.30	7076.	0.421	2980.	314.3	7490.	42.3	1461.	15.71	12.9	0016

DETROIT DIESEL ALLISON DIVISION

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PD370-41 TURBOPROP

GENERAL MOTORS CORPORATION

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

0 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEC SHP	PER PCT INLET REC DEC FN	PER PCT BLEED DEC SHP	PER PCT BLEED DEC WF	PER PCT BLEED DEC FN	K	NO
TO	0.0	170.0	23.1	272.2	62.3	36.2	4.61	0001
M.C.	0.0	138.5	17.1	213.9	47.6	25.5	6.32	0002
TO	0.10	170.2	21.2	274.5	62.5	35.0	5.38	0003
M.C.	0.10	138.8	15.4	214.8	47.7	24.6	7.67	0004
TO	0.20	172.2	19.5	275.4	62.7	34.1	6.41	0005
M.C.	0.20	139.8	13.8	216.4	47.8	23.8	9.61	0006
TO	0.30	174.7	18.0	279.9	63.1	33.9	7.84	0007
M.C.	0.30	142.3	12.4	220.1	48.2	24.2	12.75	0008

T AMBIENT = 89.8°F

0 FEET ALTITUDE

TO	0.0	150.4	18.6	239.9	54.3	28.9	5.76	0009
M.C.	0.0	122.1	14.2	191.1	40.4	20.3	7.81	0010
TO	0.10	151.6	16.6	240.6	54.4	28.0	6.91	0011
M.C.	0.10	122.2	12.5	191.5	40.4	19.5	9.73	0012
TO	0.20	152.6	15.4	242.2	54.7	27.5	8.49	0013
M.C.	0.20	123.9	11.2	193.6	40.6	18.8	12.71	0014
TO	0.30	156.2	14.0	248.3	55.5	27.1	10.86	0015
M.C.	0.30	125.6	9.8	196.4	40.9	18.4	18.27	0016

DETROIT DIESEL ALLISON DIVISION

ZERO BLEED

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PD370-41 TURBOPROP

100 PERCENT RECOVERY

STD DAY

0 FEET ALTITUDE

GENERAL MOTORS CORPORATION

ZERO POWER EXTRACTION

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB M.C.	0.20	9229.	0.398	3674.	692.2	9867.	49.0	1457.	16.07	15.6	A
	0.20	8302.	0.405	3366.	598.0	8836.	46.8	1431.	15.92	14.7	B
	0.20	7387.	0.415	3065.	510.4	7831.	44.5	1404.	15.78	13.8	C
	0.20	5731.	0.439	2518.	363.9	6035.	40.3	1351.	15.54	12.1	D
	0.20	4286.	0.475	2036.	252.2	4495.	36.2	1300.	15.36	10.5	E
	0.20	3009.	0.535	1609.	157.3	3143.	31.9	1253.	15.20	8.9	F
	0.20	1944.	0.639	1242.	86.9	2028.	27.7	1215.	15.07	7.5	G
	0.20	1012.	0.897	907.	24.6	1056.	22.9	1187.	14.94	5.9	H
CLIMB M.C.	0.30	9462.	0.393	3721.	539.5	10121.	48.3	1453.	16.11	15.3	I
	0.30	8519.	0.400	3409.	450.3	9073.	46.2	1426.	15.97	14.2	J
	0.30	7600.	0.409	3107.	368.2	8063.	44.0	1399.	15.81	13.6	K
	0.30	5920.	0.431	2554.	235.5	6240.	39.9	1346.	15.57	11.9	L
	0.30	4444.	0.465	2066.	135.0	4663.	35.8	1298.	15.39	10.4	M
	0.30	3135.	0.521	1633.	51.5	3277.	31.6	1250.	15.22	8.8	N
	0.30	2040.	0.618	1261.	-8.7	2128.	27.5	1210.	15.08	7.4	O
	0.30	1082.	0.852	922.	-52.9	1130.	22.8	1181.	14.94	5.9	P
CLIMB M.C.	0.40	9800.	0.386	3787.	391.5	10505.	47.4	1447.	16.17	14.9	1
	0.40	8827.	0.393	3470.	308.9	9422.	45.3	1421.	16.02	14.1	2
	0.40	7902.	0.401	3167.	230.0	8395.	43.3	1393.	15.84	13.2	3
	0.40	6185.	0.421	2605.	107.5	6528.	39.3	1339.	15.62	11.7	4
	0.40	4663.	0.452	2107.	13.7	4897.	35.3	1287.	15.42	10.1	5
	0.40	3313.	0.503	1664.	-57.2	3466.	31.2	1242.	15.26	8.7	6
	0.40	2179.	0.591	1287.	-108.3	2273.	27.2	1202.	15.10	7.3	7
	0.40	1175.	0.800	940.	-137.3	1227.	22.6	1173.	14.97	5.8	8
CLIMB M.C.	0.50	10226.	0.379	3871.	242.0	10983.	46.3	1440.	16.25	14.5	9
	0.50	9237.	0.385	3552.	161.2	9878.	44.3	1413.	16.09	13.6	10
	0.50	8298.	0.391	3244.	91.3	8835.	42.4	1385.	15.93	12.8	11
	0.50	6527.	0.409	2669.	-23.5	6901.	38.5	1330.	15.68	11.3	12
	0.50	4955.	0.436	2160.	-108.4	5211.	34.7	1278.	15.47	9.9	13
	0.50	3546.	0.482	1707.	-170.3	3713.	30.7	1233.	15.28	8.4	14
	0.50	2339.	0.559	1319.	-212.7	2441.	26.8	1192.	15.12	7.1	15
	0.50	1298.	0.741	962.	-225.6	1355.	22.2	1163.	14.98	5.6	16
CLIMB M.C.	0.60	10766.	0.370	3979.	89.7	11593.	45.1	1432.	16.35	13.9	17
	0.60	9763.	0.374	3652.	16.5	10466.	43.2	1404.	16.19	13.2	18
	0.60	8786.	0.380	3336.	-50.0	9379.	41.3	1376.	16.03	12.4	19
	0.60	6955.	0.395	2747.	-160.6	7368.	37.6	1320.	15.75	11.0	20
	0.60	5312.	0.419	2223.	-239.4	5594.	33.9	1268.	15.52	9.6	21
	0.60	3830.	0.459	1756.	-292.3	4014.	30.1	1222.	15.32	8.2	22
	0.60	2580.	0.523	1358.	-320.8	2703.	26.3	1180.	15.16	6.9	23
	0.60	1456.	0.679	989.	-320.2	1520.	21.9	1151.	15.01	5.5	24
CLIMB M.C.	0.70	11434.	0.359	4108.	-63.7	12355.	43.7	1422.	16.49	13.5	25
	0.70	10400.	0.363	3777.	-134.4	11194.	41.9	1394.	16.31	12.7	26
	0.70	9388.	0.367	3449.	-200.9	10051.	40.2	1365.	16.14	11.9	27
	0.70	7476.	0.380	2840.	-304.9	7942.	36.6	1309.	15.85	10.6	28
	0.70	5731.	0.400	2294.	-380.9	6045.	33.0	1257.	15.58	9.2	29
	0.70	4173.	0.434	1813.	-424.9	4378.	29.3	1210.	15.37	7.9	30
	0.70	2863.	0.490	1402.	-440.1	2994.	25.7	1168.	15.20	6.7	31
	0.70	1650.	0.618	1020.	-425.5	1723.	21.4	1138.	15.04	5.3	32
CLIMB M.C.	0.75	11821.	0.354	4185.	-141.7	12800.	43.0	1418.	16.57	13.3	33
	0.75	10777.	0.357	3846.	-213.6	11611.	41.3	1389.	16.38	12.5	34
	0.75	9737.	0.361	3514.	-278.7	10442.	39.5	1360.	16.21	11.7	35
	0.75	7764.	0.372	2890.	-384.6	8256.	36.0	1303.	15.89	10.3	36
	0.75	5972.	0.391	2334.	-452.2	6308.	32.5	1251.	15.63	9.0	37
	0.75	4368.	0.422	1843.	-496.6	4585.	28.9	1204.	15.40	7.7	38
	0.75	3018.	0.472	1425.	-505.4	3157.	25.4	1161.	15.23	6.5	39
	0.75	1759.	0.589	1036.	-482.5	1836.	21.1	1132.	15.05	5.2	40
CLIMB M.C.	0.80	12245.	0.348	4266.	-222.7	13286.	42.3	1412.	16.65	12.8	41
	0.80	11174.	0.351	3921.	-294.6	12064.	40.6	1383.	16.46	12.2	42
	0.80	10108.	0.354	3581.	-359.7	10859.	38.9	1354.	16.28	11.4	43
	0.80	8083.	0.364	2944.	-464.4	8607.	35.4	1297.	15.95	10.1	44
	0.80	6225.	0.381	2374.	-532.0	6580.	31.9	1245.	15.67	8.8	45
	0.80	4581.	0.409	1876.	-570.6	4812.	28.4	1197.	15.44	7.6	46
	0.80	3185.	0.455	1450.	-573.3	3334.	25.0	1154.	15.25	6.4	47
	0.80	1878.	0.561	1053.	-542.9	1960.	20.8	1124.	15.07	5.1	48

DETROIT DIESEL ALLISON DIVISION — EDR 9776 — GENERAL MOTORS CORPORATION

PD370-41 TURBOPROP

ZERO BLEED — 100 PERCENT RECOVERY — ZERO POWER EXTRACTION

STD DAY

5000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.20	8603.	0.387	3326.	681.5	9245.	51.9	1435.	13.54	16.8	0049
M.C.	0.20	7735.	0.393	3044.	591.6	8274.	49.5	1410.	13.40	15.8	0050
	0.20	6910.	0.402	2775.	510.3	7361.	47.1	1383.	13.27	14.8	0051
	0.20	5375.	0.423	2275.	361.4	5678.	42.6	1329.	13.02	13.0	0052
	0.20	4074.	0.453	1847.	258.8	4285.	38.3	1278.	12.86	11.3	0053
	0.20	2916.	0.502	1465.	165.1	3051.	33.9	1231.	12.70	9.7	0054
	0.20	1925.	0.589	1134.	91.9	2008.	29.5	1191.	12.58	8.1	0055
	0.20	1127.	0.755	851.	41.1	1177.	25.2	1154.	12.48	6.6	0056
CLIMB	0.30	8799.	0.383	3366.	549.5	9468.	51.1	1432.	13.58	16.5	0057
M.C.	0.30	7926.	0.389	3082.	464.0	8488.	48.8	1406.	13.43	15.3	0058
	0.30	7082.	0.397	2809.	382.9	7547.	46.5	1379.	13.29	14.6	0059
	0.30	5539.	0.416	2307.	249.1	5856.	42.1	1325.	13.05	12.8	0060
	0.30	4210.	0.445	1872.	152.9	4428.	37.9	1273.	12.88	11.1	0061
	0.30	3032.	0.491	1487.	74.5	3177.	33.6	1226.	12.73	9.5	0062
	0.30	2016.	0.571	1151.	11.3	2104.	29.3	1183.	12.59	8.0	0063
	0.30	1192.	0.724	864.	-31.2	1244.	25.0	1148.	12.48	6.5	0064
CLIMB	0.40	9077.	0.377	3423.	417.7	9781.	50.1	1427.	13.63	16.0	0065
M.C.	0.40	8193.	0.383	3135.	338.3	8787.	47.9	1400.	13.48	15.0	0066
	0.40	7336.	0.390	2859.	263.9	7831.	45.6	1374.	13.36	14.2	0067
	0.40	5768.	0.407	2350.	138.6	6101.	41.4	1318.	13.10	12.3	0068
	0.40	4408.	0.433	1909.	50.1	4643.	37.3	1266.	12.91	10.9	0069
	0.40	3191.	0.475	1517.	-22.4	3344.	33.2	1219.	12.75	9.3	0070
	0.40	2142.	0.548	1174.	-74.6	2237.	28.9	1177.	12.61	7.8	0071
	0.40	1285.	0.686	881.	-106.2	1341.	24.7	1141.	12.50	6.4	0072
CLIMB	0.50	9443.	0.371	3499.	289.8	10199.	48.9	1421.	13.70	15.5	0073
M.C.	0.50	8550.	0.375	3207.	213.2	9188.	46.8	1395.	13.55	14.6	0074
	0.50	7671.	0.381	2925.	143.0	8206.	44.6	1367.	13.40	13.8	0075
	0.50	6074.	0.397	2409.	21.5	6439.	40.5	1310.	13.14	12.1	0076
	0.50	4668.	0.419	1957.	-56.5	4924.	36.4	1257.	12.96	10.6	0077
	0.50	3397.	0.457	1553.	-123.7	3562.	32.0	1210.	12.78	9.1	0078
	0.50	2309.	0.521	1204.	-163.2	2413.	28.5	1168.	12.64	7.7	0079
	0.50	1407.	0.641	903.	-184.6	1469.	24.3	1131.	12.52	6.3	0080
CLIMB	0.60	9918.	0.362	3592.	161.7	10742.	47.5	1414.	13.80	14.9	0081
M.C.	0.60	8991.	0.366	3294.	85.6	9687.	45.4	1386.	13.63	14.1	0082
	0.60	8099.	0.371	3006.	18.7	8684.	43.4	1358.	13.48	13.3	0083
	0.60	6451.	0.384	2479.	-91.5	6858.	39.6	1301.	13.22	11.7	0084
	0.60	4989.	0.404	2014.	-171.2	5268.	35.8	1247.	13.00	10.3	0085
	0.60	3656.	0.437	1598.	-230.7	3836.	31.8	1200.	12.82	8.8	0086
	0.60	2515.	0.493	1239.	-260.0	2630.	27.9	1157.	12.67	7.4	0087
	0.60	1556.	0.596	927.	-271.0	1624.	23.9	1120.	12.54	6.1	0088

DETROIT DIESEL ALLISON DIVISION

EDR 9776

PD370-41 TURBOPROP

GENERAL MOTORS CORPORATION

ZERO BLEED

100 PERCENT RECOVERY

ZERO POWER EXTRACTION

STD DAY

10000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.20	7941.	0.377	2995.	665.9	8584.	55.0	1415.	11.35	18.1	0089
M.C.	0.20	7189.	0.382	2749.	583.2	7733.	52.5	1389.	11.22	17.1	0090
	0.20	6418.	0.390	2501.	500.1	6868.	49.9	1362.	11.09	16.0	0091
	0.20	5014.	0.408	2047.	362.8	5320.	45.0	1309.	10.87	14.0	0092
	0.20	3824.	0.435	1662.	252.6	4028.	40.5	1256.	10.69	12.1	0093
	0.20	2790.	0.475	1326.	169.3	2925.	36.1	1208.	10.56	10.4	0094
	0.20	1889.	0.545	1030.	102.3	1974.	31.5	1166.	10.44	8.8	0095
	0.20	1162.	0.671	780.	52.4	1214.	27.1	1127.	10.35	7.2	0096
CLIMB	0.30	8141.	0.373	3037.	554.6	8814.	54.3	1412.	11.40	17.8	0097
M.C.	0.30	7346.	0.379	2782.	471.1	7911.	51.8	1386.	11.25	16.7	0098
	0.30	6572.	0.385	2532.	393.9	7041.	49.3	1358.	11.12	15.7	0099
	0.30	5148.	0.403	2073.	263.2	5467.	44.4	1304.	10.89	13.7	0100
	0.30	3951.	0.427	1687.	162.1	4163.	40.0	1251.	10.71	12.0	0101
	0.30	2893.	0.465	1345.	86.8	3033.	35.7	1203.	10.57	10.3	0102
	0.30	1970.	0.531	1046.	30.0	2060.	31.2	1161.	10.45	8.7	0103
	0.30	1224.	0.647	791.	-11.6	1278.	26.8	1122.	10.36	7.1	0104
CLIMB	0.40	8392.	0.368	3089.	443.7	9104.	53.2	1407.	11.45	17.3	0105
M.C.	0.40	7576.	0.373	2827.	361.9	8171.	50.7	1381.	11.30	16.3	0106
	0.40	6793.	0.379	2575.	289.8	7290.	48.3	1353.	11.16	15.3	0107
	0.40	5350.	0.395	2113.	166.1	5687.	43.7	1298.	10.93	13.4	0108
	0.40	4128.	0.417	1720.	73.8	4356.	39.4	1245.	10.74	11.7	0109
	0.40	3040.	0.452	1373.	4.7	3191.	35.2	1196.	10.60	10.1	0110
	0.40	2085.	0.512	1067.	-44.5	2181.	30.8	1153.	10.47	8.5	0111
	0.40	1311.	0.616	808.	-78.3	1368.	26.5	1114.	10.37	7.0	0112
CLIMB	0.50	8700.	0.362	3152.	330.8	9458.	51.8	1402.	11.51	16.7	0113
M.C.	0.50	7879.	0.366	2887.	254.6	8516.	49.5	1375.	11.36	15.8	0114
	0.50	7080.	0.372	2631.	185.0	7612.	47.1	1347.	11.22	14.8	0115
	0.50	5616.	0.385	2163.	68.8	5982.	42.7	1291.	10.97	13.0	0116
	0.50	4358.	0.404	1763.	-16.8	4607.	38.6	1237.	10.78	11.4	0117
	0.50	3228.	0.436	1406.	-81.7	3391.	34.5	1188.	10.62	9.8	0118
	0.50	2235.	0.489	1093.	-121.6	2341.	30.3	1145.	10.49	8.3	0119
	0.50	1426.	0.581	828.	-147.0	1489.	26.1	1105.	10.38	6.9	0120
CLIMB	0.60	9093.	0.355	3231.	220.7	9914.	50.2	1396.	11.59	16.1	0121
M.C.	0.60	8261.	0.359	2962.	148.1	8956.	48.0	1368.	11.44	15.2	0122
	0.60	7441.	0.363	2701.	79.1	8020.	45.8	1339.	11.29	14.2	0123
	0.60	5947.	0.374	2226.	-31.3	6349.	41.7	1282.	11.03	12.6	0124
	0.60	4640.	0.391	1813.	-110.6	4916.	37.7	1227.	10.84	11.0	0125
	0.60	3464.	0.418	1448.	-170.8	3645.	33.8	1178.	10.66	9.5	0126
	0.60	2423.	0.464	1125.	-203.9	2539.	29.6	1134.	10.52	8.0	0127
	0.60	1570.	0.543	852.	-220.2	1641.	25.6	1094.	10.41	6.7	0128
CLIMB	0.70	9572.	0.348	3328.	110.7	10477.	48.5	1389.	11.70	15.3	0129
M.C.	0.70	8721.	0.350	3053.	38.0	9487.	46.4	1361.	11.54	14.5	0130
	0.70	7883.	0.354	2787.	-29.9	8524.	44.4	1331.	11.38	13.6	0131
	0.70	6349.	0.362	2301.	-136.4	6796.	40.5	1272.	11.11	12.1	0132
	0.70	4985.	0.376	1874.	-213.9	5292.	36.7	1217.	10.89	10.6	0133
	0.70	3742.	0.399	1494.	-266.2	3946.	32.8	1167.	10.71	9.1	0134
	0.70	2648.	0.438	1161.	-293.4	2778.	28.9	1123.	10.56	7.8	0135
	0.70	1741.	0.504	878.	-303.9	1820.	25.0	1082.	10.43	6.4	0136
CLIMB	0.75	9851.	0.343	3384.	54.7	10806.	47.6	1385.	11.77	15.0	0137
M.C.	0.75	8984.	0.346	3104.	-17.9	9793.	45.6	1356.	11.59	14.1	0138
	0.75	8142.	0.348	2836.	-85.3	8820.	43.6	1328.	11.43	13.2	0139
	0.75	6578.	0.356	2341.	-191.1	7052.	39.8	1267.	11.15	11.8	0140
	0.75	5179.	0.368	1907.	-266.4	5502.	36.1	1211.	10.93	10.5	0141
	0.75	3899.	0.390	1519.	-317.0	4114.	32.3	1161.	10.73	8.9	0142
	0.75	2775.	0.425	1180.	-341.2	2914.	28.5	1116.	10.58	7.6	0143
	0.75	1840.	0.485	893.	-346.1	1925.	24.7	1075.	10.45	6.3	0144
CLIMB	0.80	10159.	0.339	3443.	-0.5	11173.	46.7	1381.	11.84	14.8	0145
M.C.	0.80	9271.	0.341	3160.	-76.2	10127.	44.7	1352.	11.66	13.8	0146
	0.80	8424.	0.343	2889.	-141.5	9145.	42.9	1322.	11.49	13.0	0147
	0.80	6828.	0.350	2386.	-246.7	7334.	39.1	1262.	11.20	11.5	0148
	0.80	5387.	0.361	1943.	-321.3	5735.	35.5	1206.	10.98	10.1	0149
	0.80	4069.	0.380	1545.	-369.7	4299.	31.8	1155.	10.76	8.7	0150
	0.80	2913.	0.412	1201.	-391.1	3061.	28.0	1110.	10.60	7.2	0151
	0.80	1944.	0.467	908.	-392.0	2035.	24.3	1069.	10.46	6.2	0152

DETROIT DIESEL ALLISON DIVISION

EDR 9776

GENERAL MOTORS CORPORATION

PD370-41 TURBOPROP

ZERO BLEED

100 PERCENT RECOVERY

ZERO POWER EXTRACTION

STD DAY

15000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.30	7310.	0.367	2683.	533.7	7959.	56.8	1395.	9.48	19.0	0153
M.C.	0.30	6750.	0.369	2494.	471.3	7315.	55.0	1364.	9.38	18.1	0154
	0.30	6078.	0.374	2276.	400.1	6550.	52.4	1317.	9.26	17.0	0155
	0.30	4772.	0.390	1861.	270.9	5090.	47.1	1203.	9.04	14.8	0156
	0.30	3677.	0.411	1512.	171.8	3888.	42.4	1230.	8.86	12.9	0157
	0.30	2732.	0.443	1210.	101.5	2873.	37.9	1181.	8.74	11.1	0158
	0.30	1906.	0.496	945.	45.0	1996.	33.3	1136.	8.62	9.4	0159
	0.30	1218.	0.589	718.	4.2	1273.	28.7	1096.	8.53	7.8	0160
CLIMB	0.40	7596.	0.362	2748.	447.9	8203.	56.0	1390.	9.55	18.8	0161
M.C.	0.40	6980.	0.364	2543.	382.3	7580.	54.0	1361.	9.43	17.7	0162
	0.40	6262.	0.369	2313.	309.5	6759.	51.3	1333.	9.30	16.5	0163
	0.40	4947.	0.383	1895.	188.3	5283.	46.3	1278.	9.07	14.4	0164
	0.40	3830.	0.402	1540.	96.1	4055.	41.7	1224.	8.89	12.6	0165
	0.40	2862.	0.431	1234.	31.4	3014.	37.3	1174.	8.76	10.9	0166
	0.40	2010.	0.480	964.	-18.8	2107.	32.9	1129.	8.64	9.2	0167
	0.40	1299.	0.564	732.	-52.6	1358.	28.4	1089.	8.54	7.6	0168
CLIMB	0.50	7938.	0.356	2824.	362.9	8696.	56.9	1386.	9.63	18.1	0169
M.C.	0.50	7239.	0.359	2596.	291.3	7882.	54.2	1352.	9.48	16.9	0170
	0.50	6507.	0.363	2361.	220.2	7039.	50.0	1327.	9.34	15.8	0171
	0.50	5173.	0.375	1938.	104.5	5535.	45.2	1277.	9.11	14.0	0172
	0.50	4028.	0.392	1577.	17.4	4271.	40.8	1216.	8.92	12.2	0173
	0.50	3033.	0.417	1265.	-40.9	3198.	36.6	1166.	8.79	10.6	0174
	0.50	2145.	0.460	988.	-85.4	2250.	32.3	1121.	8.66	9.0	0175
	0.50	1403.	0.535	751.	-113.0	1467.	27.9	1080.	8.56	7.5	0176
CLIMB	0.60	8316.	0.349	2903.	275.8	9145.	53.4	1379.	9.72	17.4	0177
M.C.	0.60	7553.	0.352	2658.	198.3	8246.	50.9	1350.	9.55	16.4	0178
	0.60	6818.	0.355	2422.	132.0	7397.	48.6	1321.	9.41	15.4	0179
	0.60	5450.	0.365	1990.	19.8	5846.	44.0	1265.	9.18	13.3	0180
	0.60	4274.	0.380	1623.	-60.9	4544.	39.8	1208.	8.98	11.5	0181
	0.60	3242.	0.401	1302.	-118.5	3423.	35.8	1156.	8.82	10.1	0182
	0.60	2314.	0.439	1016.	-155.1	2431.	31.6	1111.	8.69	8.7	0183
	0.60	1534.	0.504	772.	-176.7	1605.	27.4	1070.	8.58	7.2	0184
CLIMB	0.70	8715.	0.342	2984.	182.5	9622.	51.6	1373.	9.81	16.8	0185
M.C.	0.70	7950.	0.344	2737.	107.2	8712.	49.2	1343.	9.64	15.8	0186
	0.70	7193.	0.347	2495.	40.6	7829.	46.9	1314.	9.49	14.7	0187
	0.70	5798.	0.354	2055.	-67.9	6238.	42.6	1254.	9.23	12.9	0188
	0.70	4575.	0.366	1677.	-145.4	4877.	38.7	1198.	9.04	11.4	0189
	0.70	3497.	0.385	1345.	-199.4	3700.	34.8	1146.	8.86	9.9	0190
	0.70	2514.	0.417	1048.	-231.9	2644.	30.7	1100.	8.72	8.4	0191
	0.70	1691.	0.471	797.	-247.7	1770.	26.7	1058.	8.60	7.0	0192
CLIMB	0.75	8941.	0.339	3030.	136.7	9894.	50.6	1369.	9.87	16.1	0193
M.C.	0.75	8168.	0.340	2779.	61.5	8972.	48.2	1340.	9.70	15.2	0194
	0.75	7406.	0.342	2536.	-5.4	8078.	46.1	1310.	9.54	14.3	0195
	0.75	5996.	0.349	2091.	-113.1	6462.	41.9	1249.	9.27	12.6	0196
	0.75	4751.	0.359	1707.	-189.3	5072.	38.1	1193.	9.07	11.1	0197
	0.75	3641.	0.376	1369.	-241.5	3857.	34.3	1140.	8.89	9.7	0198
	0.75	2628.	0.406	1066.	-272.1	2767.	30.3	1094.	8.74	8.2	0199
	0.75	1782.	0.455	811.	-285.2	1867.	26.3	1052.	8.61	6.9	0200
CLIMB	0.80	9188.	0.335	3082.	88.6	10195.	49.4	1367.	9.93	15.7	0201
M.C.	0.80	8414.	0.336	2828.	14.2	9264.	47.3	1336.	9.76	14.8	0202
	0.80	7641.	0.338	2581.	-52.5	8352.	45.2	1306.	9.59	14.0	0203
	0.80	6213.	0.343	2131.	-159.1	6709.	41.2	1244.	9.32	12.3	0204
	0.80	4939.	0.352	1740.	-235.2	5281.	37.5	1187.	9.11	10.8	0205
	0.80	3799.	0.367	1394.	-285.5	4029.	33.7	1134.	8.92	9.4	0206
	0.80	2751.	0.394	1085.	-314.4	2898.	29.8	1088.	8.76	8.0	0207
	0.80	1881.	0.439	825.	-323.4	1972.	26.0	1046.	8.63	6.7	0208

DETROIT DIESEL ALLISON DIVISION — EDR 9776 — GENERAL MOTORS CORPORATION

PD370-41 TURBOPROP

ZERO BLEED — 100 PERCENT RECOVERY — ZERO POWER EXTRACTION

STD DAY

20000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.40	6643.	0.358	2381.	425.9	7292.	57.9	1377.	7.88	19.6	0209
M.C.	0.40	6243.	0.358	2237.	380.1	6823.	56.7	1344.	7.80	18.9	0210
	0.40	5733.	0.361	2068.	325.0	6232.	54.7	1314.	7.70	18.0	0211
	0.40	4554.	0.372	1692.	206.3	4890.	49.2	1257.	7.48	15.7	0212
	0.40	3524.	0.389	1372.	116.7	3748.	44.1	1204.	7.32	13.6	0213
	0.40	2666.	0.413	1102.	48.4	2813.	39.6	1153.	7.18	11.8	0214
	0.40	1914.	0.452	866.	3.1	2011.	35.0	1106.	7.08	10.0	0215
	0.40	1267.	0.521	660.	-32.1	1326.	30.3	1065.	6.99	8.3	0216
CLIMB	0.50	7014.	0.352	2468.	366.0	7735.	57.3	1370.	7.97	19.2	0217
M.C.	0.50	6541.	0.352	2304.	312.9	7175.	55.6	1339.	7.87	18.4	0218
	0.50	5963.	0.355	2115.	252.2	6500.	53.4	1308.	7.76	17.4	0219
	0.50	4740.	0.365	1730.	135.4	5101.	48.0	1252.	7.52	15.1	0220
	0.50	3697.	0.380	1405.	50.4	3939.	43.2	1197.	7.35	13.2	0221
	0.50	2816.	0.401	1130.	-11.3	2977.	38.8	1145.	7.21	11.4	0222
	0.50	2036.	0.436	887.	-53.3	2142.	34.4	1098.	7.10	9.8	0223
	0.50	1361.	0.497	676.	-84.2	1424.	29.8	1056.	7.00	8.1	0224
CLIMB	0.60	7435.	0.345	2565.	305.0	8242.	56.2	1363.	8.07	18.7	0225
M.C.	0.60	6874.	0.346	2377.	243.5	7571.	54.2	1333.	7.95	17.8	0226
	0.60	6216.	0.348	2166.	176.0	6795.	51.7	1303.	7.81	16.7	0227
	0.60	4978.	0.357	1775.	63.8	5370.	46.6	1245.	7.57	14.6	0228
	0.60	3914.	0.369	1445.	-17.4	4180.	42.1	1189.	7.39	12.7	0229
	0.60	3002.	0.387	1162.	-74.4	3180.	37.9	1136.	7.24	11.1	0230
	0.60	2187.	0.418	913.	-114.1	2303.	33.6	1088.	7.12	9.4	0231
	0.60	1479.	0.470	696.	-137.9	1550.	29.2	1046.	7.02	7.9	0232
CLIMB	0.70	7869.	0.338	2662.	238.8	8773.	54.6	1357.	8.19	17.9	0233
M.C.	0.70	7209.	0.339	2446.	167.1	7972.	52.3	1327.	8.03	16.9	0234
	0.70	6529.	0.341	2227.	100.1	7163.	49.8	1297.	7.88	15.9	0235
	0.70	5272.	0.347	1830.	-9.3	5705.	45.1	1237.	7.63	13.9	0236
	0.70	4176.	0.357	1493.	-87.6	4472.	40.9	1180.	7.44	12.2	0237
	0.70	3229.	0.372	1201.	-143.0	3427.	36.8	1125.	7.28	10.6	0238
	0.70	2366.	0.398	942.	-178.0	2495.	32.7	1078.	7.15	9.1	0239
	0.70	1621.	0.443	718.	-197.4	1700.	28.5	1035.	7.04	7.6	0240
CLIMB	0.75	8087.	0.335	2708.	203.2	9042.	53.6	1354.	8.25	17.8	0241
M.C.	0.75	7392.	0.336	2481.	129.0	8194.	51.3	1324.	8.08	16.8	0242
	0.75	6716.	0.337	2264.	63.2	7386.	48.9	1293.	7.93	15.5	0243
	0.75	5429.	0.343	1860.	-47.5	5886.	44.3	1233.	7.67	13.6	0244
	0.75	4330.	0.351	1521.	-124.0	4644.	40.2	1175.	7.47	12.0	0245
	0.75	3358.	0.364	1223.	-178.7	3569.	36.3	1120.	7.30	10.4	0246
	0.75	2467.	0.388	958.	-212.0	2604.	32.2	1072.	7.17	8.9	0247
	0.75	1701.	0.429	730.	-229.1	1786.	28.1	1029.	7.06	7.4	0248
CLIMB	0.80	8297.	0.332	2751.	165.2	9303.	52.5	1352.	8.31	17.0	0249
M.C.	0.80	7594.	0.332	2522.	90.5	8440.	50.2	1321.	8.14	16.0	0250
	0.80	6907.	0.333	2300.	24.3	7614.	47.9	1289.	7.98	15.1	0251
	0.80	5611.	0.338	1894.	-85.4	6097.	43.5	1228.	7.71	13.3	0252
	0.80	4493.	0.345	1549.	-161.6	4828.	39.6	1170.	7.50	11.7	0253
	0.80	3494.	0.356	1245.	-216.1	3719.	35.7	1114.	7.33	10.2	0254
	0.80	2577.	0.378	975.	-247.0	2724.	31.6	1066.	7.19	8.7	0255
	0.80	1788.	0.415	743.	-262.4	1878.	27.6	1023.	7.07	7.3	0256

DETROIT DIESEL ALLISON DIVISION

EDR 9776

GENERAL MOTORS CORPORATION

ZERO BLEED

PE370-41 TURBOPROP

100 PERCENT RECOVERY

ZERO POWER EXTRACTION

STD DAY

25000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WFL	FN	ESHP	WCIN	TNOZ	PNOZ	RC		NO
INTER	0.40	5657.	0.357	2017.	387.8	6238.	59.3	1362.	6.44	20.5		8
M.C.	0.40	5394.	0.356	1919.	356.0	5926.	58.4	1332.	6.38	19.9		8
	0.40	5065.	0.356	1801.	317.2	5539.	57.2	1298.	6.32	19.2		8
	0.40	4168.	0.362	1508.	220.1	4505.	52.6	1236.	6.14	17.1		8
	0.40	3236.	0.377	1220.	132.0	3459.	47.0	1184.	5.98	14.7		8
	0.40	2461.	0.398	978.	65.3	2606.	42.0	1131.	5.85	12.7		8
	0.40	1796.	0.430	771.	20.6	1892.	37.3	1083.	5.76	10.9		8
	0.40	1222.	0.484	592.	-14.4	1281.	32.5	1040.	5.67	9.1		8
INTER	0.50	6035.	0.350	2111.	348.2	6683.	58.9	1360.	6.53	20.2		257
M.C.	0.50	5697.	0.349	1990.	307.8	6288.	57.8	1325.	6.46	19.2		258
	0.50	5324.	0.349	1858.	264.7	5845.	56.3	1291.	6.38	18.2		259
	0.50	4323.	0.356	1539.	160.5	4684.	51.2	1232.	6.18	16.5		260
	0.50	3381.	0.369	1247.	76.3	3621.	45.9	1177.	6.01	14.5		261
	0.50	2591.	0.387	1002.	14.6	2749.	41.2	1124.	5.87	12.4		262
	0.50	1906.	0.415	791.	-27.0	2010.	36.6	1075.	5.77	10.6		263
	0.50	1306.	0.464	606.	-58.0	1370.	31.9	1032.	5.69	8.9		264
INTER	0.60	6430.	0.343	2207.	306.1	7177.	58.1	1352.	6.63	19.7		265
M.C.	0.60	6065.	0.342	2075.	262.0	6733.	56.9	1318.	6.55	19.0		266
	0.60	5611.	0.342	1921.	210.7	6189.	55.0	1285.	6.45	18.1		267
	0.60	4522.	0.349	1577.	101.1	4912.	49.6	1226.	6.23	16.1		268
	0.60	3564.	0.359	1281.	19.9	3826.	44.6	1170.	6.05	14.3		269
	0.60	2749.	0.375	1031.	-38.8	2923.	40.1	1116.	5.90	12.6		270
	0.60	2039.	0.399	814.	-77.7	2154.	35.8	1066.	5.80	10.3		271
	0.60	1410.	0.442	623.	-104.3	1481.	31.2	1023.	5.70	8.6		272
INTER	0.70	6894.	0.336	2317.	266.8	7756.	57.2	1345.	6.77	19.2		273
M.C.	0.70	6447.	0.335	2162.	211.9	7201.	55.5	1312.	6.66	18.3		274
	0.70	5906.	0.336	1983.	152.7	6549.	53.2	1280.	6.53	17.3		275
	0.70	4758.	0.341	1624.	40.4	5188.	47.9	1220.	6.28	15.1		276
	0.70	3786.	0.349	1322.	-38.7	4076.	43.3	1161.	6.09	13.2		277
	0.70	2949.	0.361	1065.	-94.6	3144.	39.2	1106.	5.94	11.5		278
	0.70	2202.	0.382	841.	-131.0	2330.	34.8	1056.	5.83	9.9		279
	0.70	1536.	0.419	643.	-159.7	1616.	30.4	1012.	5.73	8.3		280
INTER	0.75	7136.	0.333	2375.	246.0	8063.	56.5	1342.	6.84	18.8		281
M.C.	0.75	6641.	0.332	2204.	195.8	7443.	54.6	1309.	6.71	17.9		282
	0.75	6052.	0.332	2012.	139.8	6720.	52.1	1277.	6.58	16.8		283
	0.75	4901.	0.337	1650.	10.1	5354.	47.0	1216.	6.32	14.7		284
	0.75	3914.	0.344	1345.	-68.9	4221.	42.6	1157.	6.12	12.9		285
	0.75	3060.	0.354	1084.	-124.0	3266.	38.4	1101.	5.96	11.2		286
	0.75	2296.	0.373	856.	-158.8	2432.	34.3	1050.	5.84	9.7		287
	0.75	1606.	0.407	654.	-181.3	1689.	29.9	1007.	5.74	8.1		288
INTER	0.80	7372.	0.330	2430.	222.9	8364.	55.6	1339.	6.91	18.4		289
M.C.	0.80	6829.	0.329	2245.	157.9	7681.	53.5	1307.	6.77	17.4		290
	0.80	6210.	0.329	2044.	88.3	6914.	51.0	1274.	6.61	16.4		291
	0.80	5048.	0.332	1678.	-25.3	5528.	46.1	1212.	6.35	14.4		292
	0.80	4054.	0.338	1370.	-99.6	4380.	41.8	1152.	6.15	12.6		293
	0.80	3181.	0.347	1104.	-154.4	3401.	37.8	1096.	5.98	11.0		294
	0.80	2395.	0.364	872.	-188.4	2540.	33.7	1045.	5.86	9.4		295
	0.80	1683.	0.395	665.	-208.3	1773.	29.4	1001.	5.75	7.9		296

DETROIT DIESEL ALLISON DIVISION

EDR 9776

GENERAL MOTORS CORPORATION

PD370-41 TURBOPROP

ZERO BLEED

100 PERCENT RECOVERY

ZERO POWER EXTRACTION

STD DAY

30000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	4837.	0.348	1684.	287.0	5367.	59.3	1314.	5.24	20.5	0297
M.C.	0.50	4837.	0.348	1684.	287.0	5367.	59.3	1314.	5.24	20.5	0298
	0.50	4577.	0.347	1587.	255.7	5055.	58.2	1279.	5.18	19.8	0299
	0.50	3908.	0.348	1361.	180.2	4268.	54.8	1213.	5.05	18.0	0300
	0.50	3077.	0.358	1102.	97.2	3315.	49.0	1156.	4.88	15.6	0301
	0.50	2362.	0.374	883.	36.4	2517.	43.8	1103.	4.75	13.4	0302
	0.50	1758.	0.398	699.	-7.1	1858.	39.0	1053.	4.66	11.5	0303
	0.50	1237.	0.436	540.	-35.9	1300.	34.2	1008.	4.58	9.7	0304
CLIMB	0.60	5347.	0.342	1831.	280.0	5997.	59.3	1331.	5.37	20.4	0305
M.C.	0.60	5177.	0.341	1765.	257.1	5784.	58.6	1308.	5.33	20.0	0306
	0.60	4878.	0.340	1656.	220.4	5420.	57.4	1272.	5.26	19.3	0307
	0.60	4089.	0.342	1397.	132.5	4481.	53.2	1207.	5.10	17.3	0308
	0.60	3224.	0.351	1131.	49.5	3482.	47.6	1151.	4.91	15.0	0309
	0.60	2500.	0.363	908.	-7.8	2671.	42.6	1096.	4.78	12.9	0310
	0.60	1879.	0.383	720.	-46.8	1991.	38.1	1045.	4.68	11.1	0311
	0.60	1329.	0.418	555.	-75.3	1399.	33.4	999.	4.60	9.4	0312
CLIMB	0.70	5853.	0.336	1967.	267.3	6635.	58.8	1336.	5.52	20.1	0313
M.C.	0.70	5558.	0.334	1857.	227.7	6263.	57.7	1301.	5.44	19.5	0314
	0.70	5214.	0.332	1733.	183.6	5833.	56.3	1265.	5.36	18.7	0315
	0.70	4288.	0.335	1437.	82.9	4717.	51.3	1202.	5.15	16.5	0316
	0.70	3412.	0.344	1175.	2.2	3697.	46.0	1143.	4.95	14.3	0317
	0.70	2668.	0.352	938.	-53.9	2857.	41.4	1087.	4.81	12.4	0318
	0.70	2019.	0.368	744.	-91.5	2145.	37.0	1035.	4.71	10.7	0319
	0.70	1440.	0.398	573.	-116.6	1518.	32.5	989.	4.62	9.0	0320
CLIMB	0.75	6086.	0.333	2025.	257.0	6936.	58.4	1333.	5.60	19.9	0321
M.C.	0.75	5770.	0.331	1907.	213.1	6530.	57.2	1297.	5.51	19.2	0322
	0.75	5379.	0.329	1770.	163.7	6039.	55.4	1262.	5.41	18.3	0323
	0.75	4399.	0.331	1458.	57.3	4849.	50.2	1199.	5.18	16.0	0324
	0.75	3521.	0.337	1185.	-22.3	3822.	45.2	1139.	4.98	14.0	0325
	0.75	2763.	0.346	955.	-78.1	2963.	40.7	1082.	4.83	12.1	0326
	0.75	2100.	0.360	757.	-115.9	2232.	36.4	1030.	4.72	10.5	0327
	0.75	1502.	0.388	582.	-138.6	1585.	32.0	984.	4.63	8.8	0328
CLIMB	0.80	6327.	0.330	2086.	246.3	7252.	57.8	1330.	5.68	19.5	0329
M.C.	0.80	5986.	0.327	1958.	198.5	6809.	56.5	1294.	5.58	18.8	0330
	0.80	5543.	0.326	1806.	142.9	6247.	54.5	1260.	5.46	17.9	0331
	0.80	4525.	0.328	1482.	33.6	5002.	49.2	1196.	5.21	15.6	0332
	0.80	3633.	0.332	1205.	-47.4	3952.	44.4	1135.	5.00	13.6	0333
	0.80	2865.	0.339	973.	-102.8	3079.	40.0	1078.	4.85	11.9	0334
	0.80	2187.	0.352	771.	-140.1	2327.	35.9	1024.	4.74	10.2	0335
	0.80	1569.	0.377	592.	-161.3	1658.	31.5	979.	4.64	8.6	0336

DETROIT DIESEL ALLISON DIVISION — EDR 9776 — GENERAL MOTORS CORPORATION

PD370-41 TURBOPROP

ZERO BLEED — 100 PERCENT RECOVERY — ZERO POWER EXTRACTION

STD DAY

35000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB M.C.	0.50	3752.	0.345	1293.	224.9	4159.	59.3	1252.	4.15	20.5	0337
	0.50	3752.	0.345	1293.	224.9	4159.	59.3	1252.	4.15	20.5	0338
	0.50	3752.	0.345	1293.	224.9	4159.	59.3	1252.	4.15	20.5	0339
	0.50	3393.	0.344	1167.	181.8	3732.	57.4	1198.	4.08	19.3	0340
	0.50	2786.	0.349	971.	115.0	3025.	52.6	1136.	3.94	17.1	0341
	0.50	2141.	0.362	775.	53.8	2295.	46.8	1083.	3.82	14.6	0342
	0.50	1606.	0.382	613.	11.0	1705.	41.6	1032.	3.73	12.5	0343
	0.50	1151.	0.413	476.	-17.9	1214.	36.6	985.	3.66	10.6	0344
CLIMB M.C.	0.60	4150.	0.339	1407.	217.8	4647.	59.3	1268.	4.25	20.4	0345
	0.60	4150.	0.339	1407.	217.8	4647.	59.3	1268.	4.25	20.4	0346
	0.60	4118.	0.339	1395.	212.7	4605.	59.1	1262.	4.24	20.3	0347
	0.60	3603.	0.337	1214.	150.3	3983.	56.4	1191.	4.13	18.7	0348
	0.60	2908.	0.342	995.	75.9	3166.	51.0	1131.	3.97	16.4	0349
	0.60	2254.	0.353	796.	17.4	2422.	45.5	1076.	3.84	14.1	0350
	0.60	1707.	0.370	631.	-22.8	1816.	40.5	1024.	3.75	12.1	0351
	0.60	1234.	0.397	490.	-49.9	1303.	35.8	977.	3.67	10.3	0352
CLIMB M.C.	0.70	4654.	0.334	1554.	222.5	5282.	59.3	1289.	4.39	20.4	0353
	0.70	4654.	0.334	1554.	222.5	5282.	59.3	1289.	4.39	20.4	0354
	0.70	4426.	0.332	1469.	191.2	4994.	58.3	1255.	4.34	19.8	0355
	0.70	3823.	0.330	1261.	116.8	4250.	54.9	1185.	4.19	18.0	0356
	0.70	3062.	0.334	1023.	37.1	3345.	49.2	1124.	4.01	15.6	0357
	0.70	2393.	0.343	821.	-19.9	2578.	44.0	1068.	3.87	13.5	0358
	0.70	1826.	0.357	652.	-59.4	1947.	39.4	1015.	3.77	11.6	0359
	0.70	1332.	0.380	506.	-84.2	1408.	34.8	967.	3.69	9.9	0360
CLIMB M.C.	0.75	4947.	0.332	1642.	230.4	5662.	59.3	1303.	4.49	20.4	0361
	0.75	4856.	0.331	1607.	217.0	5544.	58.9	1289.	4.46	20.2	0362
	0.75	4595.	0.329	1510.	180.4	5209.	57.8	1252.	4.39	19.5	0363
	0.75	3930.	0.327	1283.	97.9	4381.	53.9	1182.	4.22	17.6	0364
	0.75	3148.	0.330	1040.	17.3	3445.	48.3	1121.	4.03	15.2	0365
	0.75	2473.	0.338	835.	-39.2	2669.	43.3	1064.	3.89	13.2	0366
	0.75	1897.	0.350	664.	-77.9	2025.	38.8	1010.	3.78	11.4	0367
	0.75	1388.	0.371	515.	-102.2	1469.	34.3	962.	3.70	9.7	0368
CLIMB M.C.	0.80	5267.	0.330	1739.	242.2	6086.	59.3	1318.	4.59	20.4	0369
	0.80	5053.	0.328	1655.	210.0	5802.	58.4	1286.	4.53	19.9	0370
	0.80	4776.	0.325	1553.	170.7	5443.	57.2	1249.	4.45	19.2	0371
	0.80	4036.	0.323	1304.	79.1	4513.	52.8	1180.	4.25	17.1	0372
	0.80	3239.	0.326	1058.	-3.0	3553.	47.3	1118.	4.05	14.8	0373
	0.80	2561.	0.332	851.	-59.4	2768.	42.5	1060.	3.91	12.9	0374
	0.80	1971.	0.343	676.	-97.4	2107.	38.1	1005.	3.80	11.1	0375
	0.80	1448.	0.362	524.	-121.4	1534.	33.7	957.	3.71	9.4	0376

DETROIT DIESEL ALLISON DIVISION

EDR 9776

PD370-41 TURBOPROP

GENERAL MOTORS CORPORATION

ZERO BLEED

100 PERCENT RECOVERY

ZERO POWER EXTRACTION

STD DAY

40000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	2936.	0.344	1011.	176.5	3254.	59.3	1239.	3.26	20.5	0377
M.C.	0.50	2936.	0.344	1011.	176.5	3254.	59.3	1239.	3.26	20.5	0378
	0.50	2936.	0.344	1011.	176.5	3254.	59.3	1239.	3.26	20.5	0379
	0.50	2712.	0.344	932.	149.1	2986.	57.8	1195.	3.22	19.5	0380
	0.50	2253.	0.347	782.	97.6	2451.	53.4	1132.	3.12	17.4	0381
	0.50	1735.	0.359	624.	47.4	1862.	47.5	1078.	3.01	14.9	0382
	0.50	1302.	0.379	493.	12.0	1383.	42.1	1027.	2.94	12.8	0383
	0.50	936.	0.409	383.	-12.1	988.	37.1	980.	2.88	10.8	0384
CLIMB	0.60	3248.	0.339	1100.	170.7	3635.	59.3	1254.	3.35	20.4	0385
M.C.	0.60	3248.	0.339	1100.	170.7	3635.	59.3	1254.	3.35	20.4	0386
	0.60	3248.	0.339	1100.	170.7	3635.	59.3	1254.	3.35	20.4	0387
	0.60	2888.	0.336	971.	125.7	3198.	56.9	1188.	3.26	19.0	0388
	0.60	2355.	0.340	801.	67.1	2569.	51.8	1127.	3.14	16.7	0389
	0.60	1826.	0.351	641.	18.4	1964.	46.1	1072.	3.03	14.4	0390
	0.60	1384.	0.367	508.	-15.1	1473.	41.1	1020.	2.96	12.3	0391
	0.60	1003.	0.393	394.	-37.5	1059.	36.3	972.	2.90	10.4	0392
CLIMB	0.70	3643.	0.333	1214.	174.1	4133.	59.3	1275.	3.46	20.4	0393
M.C.	0.70	3643.	0.333	1214.	174.1	4133.	59.3	1275.	3.46	20.4	0394
	0.70	3528.	0.332	1171.	158.0	3986.	58.6	1253.	3.43	20.0	0395
	0.70	3072.	0.329	1012.	100.0	3422.	55.6	1182.	3.31	18.3	0396
	0.70	2476.	0.333	824.	36.6	2710.	50.0	1120.	3.17	16.0	0397
	0.70	1935.	0.341	660.	-11.3	2087.	44.7	1064.	3.06	13.7	0398
	0.70	1478.	0.355	524.	-43.9	1577.	39.9	1011.	2.97	11.8	0399
	0.70	1082.	0.376	407.	-64.6	1145.	35.3	962.	2.91	10.1	0400
CLIMB	0.75	3873.	0.331	1283.	180.1	4430.	59.3	1289.	3.53	20.4	0401
M.C.	0.75	3866.	0.331	1280.	178.9	4421.	59.2	1287.	3.52	20.4	0402
	0.75	3664.	0.329	1204.	150.7	4162.	58.2	1250.	3.47	19.7	0403
	0.75	3164.	0.326	1032.	86.4	3535.	54.6	1179.	3.34	17.9	0404
	0.75	2545.	0.329	837.	20.7	2791.	49.1	1117.	3.19	15.6	0405
	0.75	1998.	0.336	672.	-26.8	2159.	43.9	1060.	3.07	13.4	0406
	0.75	1535.	0.348	534.	-58.5	1640.	39.3	1006.	2.99	11.6	0407
	0.75	1128.	0.367	414.	-78.6	1195.	34.8	957.	2.92	9.8	0408
CLIMB	0.80	4123.	0.329	1357.	189.1	4760.	59.2	1302.	3.61	20.4	0409
M.C.	0.80	4025.	0.328	1319.	173.9	4630.	58.8	1284.	3.58	20.1	0410
	0.80	3808.	0.325	1239.	143.3	4349.	57.6	1247.	3.52	19.4	0411
	0.80	3256.	0.322	1050.	72.4	3651.	53.6	1177.	3.37	17.5	0412
	0.80	2618.	0.325	851.	4.6	2877.	48.1	1114.	3.20	15.1	0413
	0.80	2068.	0.331	684.	-41.9	2239.	43.1	1056.	3.09	13.1	0414
	0.80	1596.	0.341	544.	-73.7	1708.	38.7	1001.	3.00	11.3	0415
	0.80	1176.	0.359	422.	-94.2	1247.	34.2	952.	2.93	9.6	0416

DETROIT DIESEL ALLISON DIVISION — EDR 9776 — GENERAL MOTORS CORPORATION

PD370-41 TURBOPROP

ZERO BLEED — 100 PERCENT RECOVERY — ZERO POWER EXTRACTION

STD DAY

45000 FEET ALTITUDE

POWER	MACH	SHP	SFC	WF	FN	ESHP	WCIN	TNOZ	PNOZ	RC	NO
CLIMB	0.50	2309.	0.344	795.	138.8	2559.	59.3	1239.	2.57	20.5	0417
M.C.	0.50	2309.	0.344	795.	138.8	2559.	59.3	1239.	2.57	20.5	0418
	0.50	2309.	0.344	795.	138.8	2559.	59.3	1239.	2.57	20.5	0419
	0.50	2132.	0.344	733.	117.4	2348.	57.8	1195.	2.53	19.5	0420
	0.50	1775.	0.347	615.	76.7	1930.	53.5	1132.	2.45	17.4	0421
	0.50	1363.	0.360	491.	36.9	1462.	47.4	1079.	2.37	14.9	0422
	0.50	1024.	0.379	388.	9.4	1088.	42.1	1027.	2.31	12.8	0423
	0.50	736.	0.409	301.	-9.5	777.	37.1	980.	2.27	10.8	0424
CLIMB	0.60	2555.	0.339	865.	134.3	2860.	59.3	1254.	2.63	20.4	0425
M.C.	0.60	2555.	0.339	865.	134.3	2860.	59.3	1254.	2.63	20.4	0426
	0.60	2555.	0.339	865.	134.3	2860.	59.3	1254.	2.63	20.4	0427
	0.60	2271.	0.336	764.	99.1	2515.	56.9	1188.	2.57	19.0	0428
	0.60	1854.	0.340	630.	52.8	2022.	51.9	1126.	2.47	16.7	0429
	0.60	1434.	0.351	504.	14.2	1542.	46.1	1072.	2.38	14.4	0430
	0.60	1087.	0.367	399.	-11.9	1157.	41.1	1020.	2.32	12.3	0431
	0.60	788.	0.393	310.	-29.2	833.	36.3	972.	2.28	10.5	0432
CLIMB	0.70	2865.	0.333	955.	136.8	3250.	59.3	1275.	2.72	20.4	0433
M.C.	0.70	2865.	0.333	955.	136.8	3250.	59.3	1275.	2.72	20.4	0434
	0.70	2773.	0.332	921.	124.3	3134.	58.6	1254.	2.70	20.0	0435
	0.70	2416.	0.329	796.	78.9	2691.	55.6	1182.	2.61	18.3	0436
	0.70	1946.	0.333	648.	28.3	2130.	50.0	1121.	2.49	15.9	0437
	0.70	1521.	0.341	519.	-8.9	1641.	44.7	1064.	2.40	13.7	0438
	0.70	1163.	0.354	412.	-34.2	1241.	39.9	1011.	2.34	11.8	0439
	0.70	853.	0.376	321.	-50.6	903.	35.3	962.	2.29	10.1	0440
CLIMB	0.75	3044.	0.331	1007.	141.5	3402.	59.2	1288.	2.77	20.4	0441
M.C.	0.75	3041.	0.331	1007.	140.6	3477.	59.2	1287.	2.77	20.4	0442
	0.75	2882.	0.329	947.	118.6	3274.	58.2	1250.	2.73	19.7	0443
	0.75	2489.	0.326	811.	68.1	2781.	54.6	1179.	2.63	17.9	0444
	0.75	2001.	0.329	658.	16.3	2194.	49.0	1117.	2.51	15.5	0445
	0.75	1571.	0.336	528.	-20.7	1698.	43.9	1060.	2.41	13.4	0446
	0.75	1206.	0.348	420.	-46.0	1289.	39.3	1006.	2.35	11.6	0447
	0.75	887.	0.367	326.	-61.9	940.	34.8	957.	2.30	9.8	0448
CLIMB	0.80	3243.	0.329	1068.	148.9	3745.	59.3	1303.	2.84	20.4	0449
M.C.	0.80	3165.	0.328	1038.	136.8	3641.	58.8	1284.	2.81	20.1	0450
	0.80	2995.	0.325	975.	112.6	3420.	57.6	1247.	2.77	19.4	0451
	0.80	2561.	0.322	826.	57.1	2871.	53.6	1177.	2.65	17.5	0452
	0.80	2059.	0.325	669.	3.7	2263.	48.1	1114.	2.52	15.1	0453
	0.80	1626.	0.331	538.	-33.2	1760.	43.1	1056.	2.43	13.1	0454
	0.80	1255.	0.341	428.	-57.9	1343.	38.6	1001.	2.36	11.3	0455
	0.80	924.	0.359	332.	-74.1	980.	34.2	952.	2.30	9.6	0456

PD370-41 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

0 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.20	149.1	15.5	233.0	52.4	28.3	8.30	A
M.C.	0.20	140.1	13.9	217.7	48.0	24.7	9.61	B
	0.20	129.1	12.2	195.0	42.6	21.3	11.23	C
	0.20	109.4	9.5	154.8	33.4	15.2	15.73	D
	0.20	92.1	7.3	118.7	25.2	11.5	22.94	E
	0.20	73.8	5.2	105.9	23.6	9.2	36.92	F
	0.20	56.2	3.9	96.5	23.5	8.6	67.72	G
	0.20	49.2	2.3	77.4	21.7	5.4	236.77	H
CLIMB	0.30	152.2	14.0	238.5	53.2	26.6	10.65	I
M.C.	0.30	142.0	12.3	219.9	48.2	24.1	12.76	J
	0.30	131.3	10.4	197.4	42.8	20.0	15.53	K
	0.30	112.0	8.0	157.7	33.6	15.0	24.35	L
	0.30	94.2	6.2	121.0	25.2	11.2	42.96	M
	0.30	75.5	4.2	109.8	24.1	8.9	113.06	N
	0.30	57.3	2.3	98.7	23.5	6.9	-673.50	O
	0.30	50.6	1.3	78.4	21.3	4.1	-111.22	P
CLIMB	0.40	156.6	12.9	245.8	53.7	26.7	14.68	1
M.C.	0.40	145.1	11.8	222.4	48.2	24.3	18.61	2
	0.40	135.1	9.9	201.7	43.2	19.9	24.91	3
	0.40	114.3	6.8	161.8	34.0	14.7	53.48	4
	0.40	96.4	4.6	123.5	25.3	10.6	423.61	5
	0.40	77.7	2.8	115.6	24.8	8.9	-101.85	6
	0.40	59.4	0.9	102.4	23.7	6.1	-53.63	7
	0.40	51.6	0.2	79.6	20.7	2.8	-42.53	8
CLIMB	0.50	160.5	11.6	251.1	54.4	27.0	23.76	9
M.C.	0.50	148.6	10.7	226.0	48.5	23.9	35.24	10
	0.50	138.8	8.4	207.2	43.7	20.3	62.99	11
	0.50	117.5	5.1	165.7	34.1	15.1	-245.27	12
	0.50	99.7	3.3	129.9	26.0	11.8	-53.55	13
	0.50	80.4	1.6	122.6	25.7	8.3	-34.23	14
	0.50	62.2	-0.2	106.7	23.7	4.4	-27.16	15
	0.50	52.6	-1.3	81.5	20.2	1.9	-25.89	16
CLIMB	0.60	166.0	10.6	256.7	55.2	27.1	64.13	17
M.C.	0.60	154.8	9.0	233.1	48.9	24.5	348.91	18
	0.60	142.4	7.8	211.6	43.6	21.4	-114.95	19
	0.60	122.9	4.3	170.7	34.1	15.9	-35.97	20
	0.60	104.2	2.4	137.5	26.9	11.9	-24.24	21
	0.60	83.4	0.5	131.6	26.9	8.1	-19.91	22
	0.60	66.0	-0.2	113.0	24.0	4.7	-18.14	23
	0.60	56.7	-2.2	85.2	19.8	1.2	-18.39	24
CLIMB	0.70	171.9	9.6	264.6	55.3	28.1	-40.31	25
M.C.	0.70	161.9	8.2	244.0	50.6	25.2	-32.76	26
	0.70	148.3	6.6	219.3	44.3	22.1	-28.61	27
	0.70	129.0	3.3	177.8	35.6	16.7	-19.01	28
	0.70	109.1	1.2	145.8	27.8	11.5	-15.19	29
	0.70	87.3	-0.8	142.7	28.3	7.7	-13.65	30
	0.70	70.0	-1.3	119.7	24.3	5.1	-13.25	31
	0.70	57.1	-3.6	90.5	19.7	0.7	-13.78	32
CLIMB	0.75	175.7	9.3	269.8	56.5	29.3	-30.55	33
M.C.	0.75	166.2	7.7	249.5	51.2	25.8	-26.91	34
	0.75	155.2	6.1	223.2	44.8	22.2	-20.62	35
	0.75	132.0	2.9	179.8	34.5	16.5	-14.95	36
	0.75	112.0	1.0	153.0	28.9	12.3	-12.85	37
	0.75	89.5	-2.1	149.3	29.1	7.1	-11.62	38
	0.75	71.8	-2.6	123.8	24.2	4.6	-11.51	39
	0.75	58.4	-4.1	93.3	19.6	0.4	-12.13	40
CLIMB	0.80	180.4	9.1	275.7	57.3	29.9	-25.01	41
M.C.	0.80	169.6	7.1	255.3	51.8	26.5	-19.51	42
	0.80	158.9	5.6	230.4	45.8	23.1	-15.96	43
	0.80	135.6	2.3	184.0	34.8	17.0	-12.38	44
	0.80	114.2	0.0	160.8	29.9	12.4	-10.80	45
	0.80	92.7	-2.7	156.5	30.0	6.4	-10.11	46
	0.80	74.2	-3.3	126.5	24.3	3.8	-10.15	47
	0.80	59.9	-4.8	95.1	19.3	-0.3	-10.75	48

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

5000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB M.C.	0.20	135.5	14.7	212.2	47.4	25.7	7.02	0049
	0.20	123.9	13.9	194.1	42.8	23.2	8.09	0050
	0.20	116.9	12.4	181.4	39.6	21.7	9.42	0051
	0.20	97.4	8.6	144.2	31.3	15.5	13.17	0052
	0.20	83.5	7.6	113.1	24.2	11.9	18.73	0053
	0.20	66.8	4.6	87.1	18.6	8.4	29.20	0054
	0.20	51.5	2.7	85.3	20.0	6.9	52.25	0055
	0.20	40.9	2.8	68.7	17.6	5.7	118.47	0056
CLIMB M.C.	0.30	137.8	14.0	214.7	47.6	25.6	8.70	0057
	0.30	125.2	11.9	198.0	43.3	23.5	10.31	0058
	0.30	117.7	10.4	182.6	39.7	20.4	12.49	0059
	0.30	100.1	7.5	146.7	31.3	14.9	19.12	0060
	0.30	84.2	5.9	114.0	23.8	11.3	31.53	0061
	0.30	68.7	4.1	89.8	19.0	8.2	65.23	0062
	0.30	53.1	2.9	88.4	20.3	6.5	429.99	0063
	0.30	41.8	1.3	70.5	17.6	4.4	-155.92	0064
CLIMB M.C.	0.40	139.1	12.4	219.8	47.9	25.3	11.46	0065
	0.40	130.1	10.9	202.0	43.8	23.3	14.14	0066
	0.40	119.6	9.9	185.1	39.7	20.7	18.14	0067
	0.40	101.4	7.3	149.4	31.1	15.0	34.51	0068
	0.40	86.1	4.8	116.7	23.9	11.3	96.52	0069
	0.40	70.4	3.1	94.2	19.6	8.2	-215.65	0070
	0.40	54.6	1.7	92.5	20.7	6.0	-64.73	0071
	0.40	43.5	0.4	73.1	17.6	3.6	-45.68	0072
CLIMB M.C.	0.50	143.0	11.6	223.9	49.3	25.8	16.51	0073
	0.50	134.3	10.1	208.6	45.1	22.9	22.45	0074
	0.50	123.3	9.3	187.6	39.9	20.8	33.46	0075
	0.50	105.6	5.6	152.9	31.5	14.2	221.08	0076
	0.50	89.7	4.3	120.3	24.1	11.6	-85.68	0077
	0.50	72.8	1.8	99.9	20.3	7.7	-38.88	0078
	0.50	56.8	0.9	97.4	21.1	5.8	-29.70	0079
	0.50	45.7	-0.5	76.1	17.5	2.7	-26.39	0080
CLIMB M.C.	0.60	145.9	10.7	233.0	50.2	26.4	29.58	0081
	0.60	137.6	8.9	213.0	45.5	23.1	55.93	0082
	0.60	128.0	7.6	192.7	40.1	20.5	255.60	0083
	0.60	109.1	5.4	156.5	31.6	14.8	-52.35	0084
	0.60	92.9	2.8	123.8	24.2	11.0	-28.13	0085
	0.60	76.0	0.4	107.7	21.3	7.1	-20.75	0086
	0.60	59.2	-0.5	102.3	21.3	5.4	-18.57	0087
	0.60	48.1	-1.7	80.2	17.6	2.3	-17.89	0088

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

10000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB M.C.	0.20	118.9	14.1	187.2	42.0	24.4	5.94	0089
	0.20	112.5	12.9	176.6	39.1	22.2	6.78	0090
	0.20	103.3	11.8	160.5	35.2	19.6	7.92	0091
	0.20	87.4	8.5	132.1	28.5	15.4	10.96	0092
	0.20	73.1	6.4	104.4	21.9	10.9	15.64	0093
	0.20	60.3	4.6	78.0	16.4	7.6	23.46	0094
	0.20	47.4	3.5	70.4	15.7	6.9	39.10	0095
	0.20	35.7	2.6	61.3	14.8	5.7	77.25	0096
CLIMB M.C.	0.30	121.1	13.2	193.9	43.4	24.8	7.13	0097
	0.30	113.4	11.6	177.8	39.6	21.8	8.39	0098
	0.30	104.4	10.0	163.3	35.7	19.4	10.04	0099
	0.30	87.8	7.6	133.3	28.6	14.8	15.03	0100
	0.30	74.4	5.4	106.5	22.2	10.2	24.30	0101
	0.30	61.4	3.4	79.5	16.4	7.0	45.63	0102
	0.30	48.4	2.7	72.7	15.9	6.4	133.57	0103
	0.30	36.5	1.6	62.9	14.8	4.6	-347.94	0104
CLIMB M.C.	0.40	124.6	12.7	197.7	44.0	24.6	8.91	0105
	0.40	115.8	10.7	180.0	39.3	21.4	10.93	0106
	0.40	107.3	9.2	167.6	35.9	19.2	13.64	0107
	0.40	89.4	6.9	136.4	28.6	14.9	23.85	0108
	0.40	77.0	4.8	108.9	22.6	10.1	53.56	0109
	0.40	63.3	2.4	81.8	16.6	6.8	839.08	0110
	0.40	49.9	1.8	76.4	16.3	6.0	-89.80	0111
	0.40	37.9	0.7	65.2	14.9	3.6	-51.19	0112
CLIMB M.C.	0.50	126.9	11.5	200.7	44.1	24.5	11.97	0113
	0.50	118.2	9.9	185.6	40.3	21.7	15.54	0114
	0.50	109.5	8.4	171.5	36.4	19.2	21.38	0115
	0.50	93.6	6.3	140.1	28.9	15.1	57.58	0116
	0.50	78.4	3.6	111.5	22.6	10.1	-235.90	0117
	0.50	65.2	1.8	85.5	16.9	7.5	-48.37	0118
	0.50	51.9	1.0	81.2	16.9	5.5	-32.94	0119
	0.50	39.8	0.0	68.2	15.0	3.2	-27.34	0120
CLIMB M.C.	0.60	130.3	10.4	206.5	44.6	25.0	17.94	0121
	0.60	122.3	9.3	192.1	40.9	22.7	26.68	0122
	0.60	113.1	7.6	175.5	36.7	19.7	50.07	0123
	0.60	97.0	5.0	144.0	29.1	14.7	-126.55	0124
	0.60	81.7	2.9	114.2	22.5	10.9	-35.99	0125
	0.60	68.6	1.6	90.8	17.5	7.9	-23.20	0126
	0.60	54.3	0.2	87.8	17.7	5.5	-19.66	0127
	0.60	42.1	-0.4	72.1	15.2	3.2	-18.37	0128
CLIMB M.C.	0.70	134.8	10.2	211.8	46.0	26.2	35.75	0129
	0.70	125.8	8.7	198.3	42.2	23.3	104.20	0130
	0.70	117.5	6.8	179.0	37.2	19.9	-132.68	0131
	0.70	101.1	4.3	148.9	30.0	15.1	-29.03	0132
	0.70	85.8	2.0	118.1	22.7	10.8	-18.54	0133
	0.70	72.0	0.9	97.7	18.4	8.3	-14.92	0134
	0.70	57.1	-0.5	95.4	18.6	5.2	-13.65	0135
	0.70	44.6	-1.7	76.3	15.3	2.4	-13.16	0136
CLIMB M.C.	0.75	136.7	10.0	217.7	46.8	26.8	72.44	0137
	0.75	128.4	8.5	200.3	42.1	23.7	-221.06	0138
	0.75	119.9	6.5	182.4	37.6	20.1	-46.46	0139
	0.75	103.7	4.0	151.5	30.0	15.3	-20.74	0140
	0.75	87.1	1.8	118.9	22.6	11.0	-14.74	0141
	0.75	73.4	-0.3	101.2	18.8	8.1	-12.53	0142
	0.75	58.6	-1.0	99.4	19.1	4.7	-11.73	0143
	0.75	46.3	-2.1	78.7	15.4	2.5	-11.63	0144
CLIMB M.C.	0.80	140.1	9.9	222.6	47.6	27.5	-7647.20	0145
	0.80	130.9	7.9	202.6	42.4	23.9	-51.99	0146
	0.80	123.2	6.2	186.8	38.3	20.9	-28.00	0147
	0.80	106.0	3.7	153.9	30.3	15.8	-16.05	0148
	0.80	89.3	1.5	122.0	22.8	11.6	-12.17	0149
	0.80	75.2	-0.2	106.9	19.6	8.4	-10.75	0150
	0.80	60.1	-1.5	102.8	19.3	5.0	-10.22	0151
	0.80	47.4	-2.6	80.7	15.4	2.1	-10.25	0152

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

15000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.30	104.4	12.2	150.4	33.1	20.4	6.09	0153
M.C.	0.30	99.2	11.0	156.9	34.8	20.3	6.89	0154
	0.30	93.6	9.9	147.4	32.3	18.4	8.11	0155
	0.30	78.7	7.2	121.8	26.2	14.5	12.00	0156
	0.30	65.7	5.1	98.2	20.6	10.3	18.99	0157
	0.30	54.9	4.2	74.6	15.4	7.5	32.12	0158
	0.30	44.1	2.5	58.9	12.3	5.5	72.14	0159
	0.30	33.2	1.6	56.7	12.9	4.6	795.60	0160
CLIMB	0.40	107.1	11.7	161.7	35.9	21.7	7.25	0161
M.C.	0.40	102.1	10.5	164.3	36.2	21.0	8.49	0162
	0.40	95.1	9.1	148.8	32.5	18.1	10.49	0163
	0.40	80.5	6.6	125.3	26.7	13.7	17.25	0164
	0.40	67.5	4.9	99.5	20.6	10.3	33.67	0165
	0.40	56.2	3.2	76.7	15.5	7.7	104.19	0166
	0.40	45.4	1.9	61.9	13.7	5.4	-174.15	0167
	0.40	34.3	0.9	58.9	13.1	4.0	-62.89	0168
CLIMB	0.50	110.7	11.4	174.8	39.2	23.2	8.95	0169
M.C.	0.50	104.9	9.9	166.7	36.8	21.2	11.13	0170
	0.50	97.4	8.3	151.6	32.5	18.2	14.75	0171
	0.50	83.7	5.8	127.9	26.8	13.7	31.22	0172
	0.50	69.6	3.7	101.6	20.6	9.9	185.56	0173
	0.50	58.5	2.6	78.9	15.6	7.7	-80.09	0174
	0.50	47.2	1.4	66.0	13.2	5.3	-38.65	0175
	0.50	35.8	0.3	61.5	13.2	3.6	-29.23	0176
CLIMB	0.60	114.8	10.9	184.6	41.1	24.5	11.46	0177
M.C.	0.60	107.6	9.2	168.8	38.0	21.3	14.39	0178
	0.60	100.5	7.8	157.2	33.3	18.9	24.61	0179
	0.60	85.6	5.2	130.2	26.7	14.1	164.20	0180
	0.60	71.0	3.7	103.4	20.7	10.4	-52.87	0181
	0.60	60.7	1.9	81.0	15.5	7.3	-27.52	0182
	0.60	49.4	0.8	71.5	13.9	5.6	-21.23	0183
	0.60	37.7	-0.1	64.7	13.3	3.5	-18.71	0184
CLIMB	0.70	118.4	10.5	189.3	41.0	25.5	17.78	0185
M.C.	0.70	111.1	8.5	175.6	37.8	22.2	30.30	0186
	0.70	103.9	7.2	162.4	34.2	19.5	80.05	0187
	0.70	89.3	4.5	134.8	27.0	14.4	-47.92	0188
	0.70	74.4	2.8	106.8	20.9	10.9	-22.04	0189
	0.70	63.7	1.1	84.8	15.8	7.6	-16.37	0190
	0.70	51.2	-0.2	77.3	14.7	5.1	-14.17	0191
	0.70	39.6	-1.0	68.1	13.4	2.7	-13.26	0192
CLIMB	0.75	120.1	10.4	191.0	41.5	25.7	44.17	0193
M.C.	0.75	112.9	8.6	177.8	38.8	22.9	52.77	0194
	0.75	106.2	7.1	164.9	34.6	19.9	-603.02	0195
	0.75	91.2	4.4	136.2	27.1	14.8	-28.74	0196
	0.75	77.7	2.5	110.2	21.2	11.1	-16.95	0197
	0.75	65.0	0.8	87.8	16.1	8.2	-13.56	0198
	0.75	52.9	-0.2	81.8	15.2	5.3	-12.08	0199
	0.75	40.9	-1.3	70.4	13.5	2.7	-11.51	0200
CLIMB	0.80	121.1	10.1	192.8	42.3	26.6	56.61	0201
M.C.	0.80	115.4	8.5	181.7	38.7	23.3	228.24	0202
	0.80	108.2	6.9	166.8	34.5	20.3	-61.95	0203
	0.80	94.3	4.3	138.7	27.3	15.2	-20.43	0204
	0.80	79.8	2.2	112.9	21.3	11.4	-13.67	0205
	0.80	67.5	0.6	91.8	16.6	8.4	-11.47	0206
	0.80	54.2	-0.7	85.9	15.8	5.3	-10.55	0207
	0.80	42.2	-1.8	72.8	13.6	2.7	-10.19	0208

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

20000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB M.C.	0.40	91.2	10.6	117.0	25.1	17.5	6.21	0209
	0.40	87.2	9.8	127.0	27.8	17.6	6.96	0210
	0.40	83.1	8.7	132.4	29.2	17.3	8.14	0211
	0.40	71.5	6.5	111.7	23.6	13.1	12.84	0212
	0.40	58.5	5.0	89.0	18.5	10.3	22.40	0213
	0.40	49.8	3.1	70.5	14.3	6.5	54.31	0214
	0.40	40.7	2.0	52.8	10.5	5.1	848.78	0215
	0.40	31.3	1.3	49.0	10.4	3.1	-83.81	0216
CLIMB M.C.	0.50	94.3	10.6	130.8	28.3	19.6	7.23	0217
	0.50	90.6	9.6	139.5	30.7	19.3	8.45	0218
	0.50	86.1	8.5	137.6	30.0	17.9	10.48	0219
	0.50	73.1	5.9	115.2	24.0	13.4	19.56	0220
	0.50	61.0	4.0	92.4	19.1	10.3	54.87	0221
	0.50	51.8	2.7	72.9	14.6	6.8	-235.01	0222
	0.50	42.3	1.7	54.9	10.6	5.1	-50.20	0223
	0.50	32.4	0.5	52.1	10.8	3.5	-31.78	0224
CLIMB M.C.	0.60	98.7	10.6	147.4	32.9	21.5	8.68	0225
	0.60	93.3	9.3	151.3	33.4	20.8	10.86	0226
	0.60	88.0	7.8	139.2	30.7	18.0	15.03	0227
	0.60	75.6	5.4	117.7	24.6	13.5	41.54	0228
	0.60	63.5	3.3	95.4	19.1	9.8	-150.96	0229
	0.60	53.3	2.0	74.8	14.3	7.0	-35.74	0230
	0.60	44.1	1.0	58.3	11.1	4.9	-23.38	0231
	0.60	33.9	-0.0	56.3	11.5	3.3	-19.49	0232
CLIMB M.C.	0.70	102.5	10.3	163.5	37.2	23.8	11.08	0233
	0.70	97.6	9.0	154.7	34.9	22.3	15.84	0234
	0.70	90.8	7.5	142.1	30.5	18.5	26.46	0235
	0.70	77.4	4.8	121.2	24.9	13.9	-28.35	0236
	0.70	66.3	3.0	98.3	19.4	10.3	29.98	0237
	0.70	56.1	1.2	78.0	14.6	7.3	18.56	0238
	0.70	46.0	0.3	63.2	11.7	5.3	15.01	0239
	0.70	35.8	-0.6	61.2	11.8	3.3	13.60	0240
CLIMB M.C.	0.75	103.9	10.0	169.2	38.1	24.9	13.03	0241
	0.75	98.6	8.7	156.1	34.2	21.7	20.52	0242
	0.75	92.2	7.3	146.2	31.7	19.3	41.88	0243
	0.75	78.9	4.6	120.8	24.7	14.1	-55.63	0244
	0.75	68.5	2.9	100.5	19.7	10.6	21.22	0245
	0.75	57.7	1.1	79.4	14.8	7.4	14.88	0246
	0.75	47.1	-0.1	66.0	12.0	5.4	12.61	0247
	0.75	36.8	-0.9	63.1	11.9	3.5	11.70	0248
CLIMB M.C.	0.80	105.6	9.9	171.0	38.4	25.5	14.03	0249
	0.80	100.1	8.6	157.4	34.3	22.0	29.25	0250
	0.80	94.1	7.1	148.0	31.8	19.7	108.95	0251
	0.80	80.3	4.5	122.7	24.9	14.5	-30.85	0252
	0.80	70.5	2.7	102.2	19.8	10.9	16.38	0253
	0.80	59.0	1.0	80.7	14.7	7.5	12.30	0254
	0.80	48.6	-0.0	69.5	12.6	5.5	10.84	0255
	0.80	37.8	-1.1	64.8	12.0	3.1	10.20	0256

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SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

25000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
INTER	0.40	82.7	13.5	82.7	16.5	0.0	5.50	
M.C.	0.40	92.3	14.1	92.3	19.8	0.0	6.00	
	0.40	98.6	14.2	98.6	21.2	0.0	6.74	
	0.40	98.8	12.5	98.8	21.3	0.0	9.73	
	0.40	80.9	10.3	80.9	17.0	0.0	16.04	
	0.40	64.8	6.6	64.8	13.2	0.0	32.60	
	0.40	47.9	4.6	47.9	9.4	0.0	104.82	
	0.40	39.0	3.4	39.0	7.9	0.0	-150.53	
INTER	0.50	96.5	15.9	96.5	20.9	0.0	6.13	257
M.C.	0.50	99.1	15.4	99.1	21.4	0.0	6.94	258
	0.50	109.9	15.6	109.9	23.6	0.0	8.08	259
	0.50	99.8	12.5	99.8	21.5	0.0	13.27	260
	0.50	83.8	9.4	83.8	17.4	0.0	27.82	261
	0.50	66.7	6.9	66.7	13.4	0.0	146.32	262
	0.50	50.3	4.9	50.3	9.8	0.0	-80.03	263
	0.50	41.7	3.2	41.7	8.3	0.0	-37.29	264
INTER	0.60	107.9	17.7	107.9	23.6	0.0	6.98	265
M.C.	0.60	114.2	17.6	114.2	25.0	0.0	8.16	266
	0.60	120.9	17.2	120.9	26.5	0.0	10.15	267
	0.60	103.1	12.9	103.1	21.8	0.0	21.04	268
	0.60	86.1	9.7	86.1	17.4	0.0	106.97	269
	0.60	68.0	6.9	68.0	13.3	0.0	-55.30	270
	0.60	52.0	4.8	52.0	9.8	0.0	-21.74	271
	0.60	43.2	3.4	43.2	8.7	0.0	-20.72	272
INTER	0.70	122.9	20.3	122.9	27.0	0.0	8.01	273
M.C.	0.70	129.7	19.7	129.7	29.0	0.0	10.10	274
	0.70	127.4	18.4	127.4	27.9	0.0	13.99	275
	0.70	106.0	13.2	106.0	22.2	0.0	32.47	276
	0.70	88.1	9.8	88.1	17.6	0.0	-52.13	277
	0.70	70.9	7.1	70.9	13.6	0.0	-22.68	278
	0.70	54.2	5.0	54.2	9.9	0.0	-16.46	279
	0.70	49.4	3.7	49.4	9.3	0.0	-41.10	280
INTER	0.75	131.3	21.7	131.3	29.0	0.0	8.69	281
M.C.	0.75	136.3	20.6	136.3	30.4	0.0	10.51	282
	0.75	128.0	18.3	128.0	27.8	0.0	14.85	283
	0.75	108.7	13.6	108.7	22.5	0.0	21.10	284
	0.75	89.6	10.3	89.6	17.7	0.0	-31.00	285
	0.75	71.3	7.3	71.3	13.7	0.0	-17.32	286
	0.75	56.3	5.4	56.3	10.2	0.0	-13.61	287
	0.75	51.3	3.8	51.3	9.5	0.0	-11.88	288
INTER	0.80	139.7	23.0	139.7	32.2	0.0	9.60	289
M.C.	0.80	140.5	21.9	140.5	33.5	0.0	13.53	290
	0.80	128.7	18.5	128.7	28.2	0.0	24.23	291
	0.80	109.6	14.0	109.6	22.7	0.0	-99.38	292
	0.80	91.7	10.4	91.7	17.7	0.0	-21.46	293
	0.80	73.2	7.5	73.2	13.6	0.0	-13.92	294
	0.80	58.7	5.4	58.7	10.4	0.0	-11.46	295
	0.80	54.4	3.3	54.4	9.9	0.0	-10.37	296

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

30000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.50	62.7	7.6	56.2	9.5	10.1	5.96	0297
M.C.	0.50	62.7	7.6	56.2	9.5	10.1	5.96	0298
	0.50	60.8	7.1	77.8	16.7	12.3	6.69	0299
	0.50	54.8	5.7	87.4	19.0	11.9	9.41	0300
	0.50	46.9	3.9	73.9	15.4	8.8	17.59	0301
	0.50	39.2	2.6	59.6	12.0	6.5	47.26	0302
	0.50	32.4	1.7	46.0	9.0	4.3	-241.43	0303
	0.50	26.0	0.9	33.9	6.5	3.2	-48.27	0304
CLIMB	0.60	67.0	8.2	58.9	9.4	11.1	6.10	0305
M.C.	0.60	66.7	7.9	82.7	17.8	14.1	6.66	0306
	0.60	63.5	7.1	86.4	18.6	13.9	7.78	0307
	0.60	56.7	5.3	91.8	19.8	12.4	12.79	0308
	0.60	48.3	3.5	75.4	15.8	8.9	34.55	0309
	0.60	40.7	2.3	61.8	12.0	6.7	-221.35	0310
	0.60	34.3	1.4	48.2	9.2	4.8	-36.87	0311
	0.60	27.0	0.4	36.2	6.8	3.2	-22.90	0312
CLIMB	0.70	72.3	9.0	87.2	19.2	16.4	6.40	0313
M.C.	0.70	69.5	8.3	91.2	20.1	16.0	7.52	0314
	0.70	66.7	7.3	100.9	22.0	15.9	9.32	0315
	0.70	59.2	5.2	93.2	20.1	12.6	20.44	0316
	0.70	49.7	3.3	78.5	15.9	9.4	773.04	0317
	0.70	42.5	2.0	63.3	12.1	6.8	-31.91	0318
	0.70	35.4	0.9	49.5	9.1	4.9	-18.83	0319
	0.70	28.4	0.2	39.3	7.2	3.3	-14.80	0320
CLIMB	0.75	73.0	9.3	92.7	20.6	17.8	6.65	0321
M.C.	0.75	70.9	8.3	99.4	22.3	17.3	8.06	0322
	0.75	68.2	7.3	106.3	23.6	16.7	10.45	0323
	0.75	59.6	5.0	94.8	19.8	12.9	29.56	0324
	0.75	51.3	3.1	80.0	16.1	9.5	-77.03	0325
	0.75	43.5	1.9	64.1	12.3	6.9	-22.04	0326
	0.75	36.2	0.5	50.4	9.1	4.7	-14.83	0327
	0.75	29.0	-0.1	41.0	7.4	3.3	-12.45	0328
CLIMB	0.80	75.0	9.6	99.6	22.8	19.2	6.94	0329
M.C.	0.80	73.0	8.6	109.0	24.7	18.6	8.63	0330
	0.80	69.3	7.6	111.8	25.0	17.8	11.95	0331
	0.80	60.7	5.0	96.5	20.2	13.5	50.47	0332
	0.80	52.5	3.1	80.5	16.0	9.8	-36.24	0333
	0.80	44.5	1.7	65.0	12.4	7.1	-16.74	0334
	0.80	37.2	0.6	51.2	9.2	4.8	-12.26	0335
	0.80	29.8	-0.2	43.1	7.7	3.4	-10.70	0336

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

35000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEC SHP	PER PCT INLET REC DEC FN	PER PCT BLEED DEC SHP	PER PCT BLEED DEC WF	PER PCT BLEED DEC FN	K	NO
CLIMB M.C.	0.50	48.6	6.1	43.2	6.7	8.1	6.02	0337
	0.50	48.6	6.1	43.2	6.7	8.1	6.02	0338
	0.50	48.6	6.1	43.2	6.7	8.1	6.02	0339
	0.50	46.2	5.2	62.9	13.3	9.6	7.38	0340
	0.50	41.0	4.0	65.6	13.8	8.6	11.81	0341
	0.50	33.9	2.6	53.3	10.8	6.2	25.35	0342
	0.50	28.1	1.7	41.7	8.2	4.3	122.71	0343
	0.50	22.6	1.0	30.2	5.7	2.9	-76.56	0344
CLIMB M.C.	0.60	55.8	6.6	46.4	7.7	8.3	6.22	0345
	0.60	53.8	6.6	46.7	7.7	9.3	6.22	0346
	0.60	52.7	6.4	63.5	13.6	11.1	6.38	0347
	0.60	48.3	5.2	71.8	15.4	10.8	8.96	0348
	0.60	41.8	3.6	66.4	14.0	8.6	17.91	0349
	0.60	34.9	2.4	54.3	11.0	6.2	78.33	0350
	0.60	29.3	1.5	43.2	8.3	4.6	-59.44	0351
	0.60	23.6	0.7	32.0	6.0	3.1	-27.37	0352
CLIMB M.C.	0.70	57.0	7.3	50.5	8.2	10.7	6.09	0353
	0.70	57.0	7.3	50.5	8.2	10.7	6.09	0354
	0.70	55.0	6.8	69.6	15.1	12.8	7.07	0355
	0.70	50.6	5.2	80.7	17.5	12.0	11.55	0356
	0.70	43.6	3.4	69.1	14.1	9.1	36.68	0357
	0.70	36.4	2.2	55.8	10.9	6.3	-68.44	0358
	0.70	30.4	1.2	44.0	8.3	4.5	-22.93	0359
	0.70	24.7	0.4	32.5	6.0	3.1	-16.21	0360
CLIMB M.C.	0.75	59.4	7.8	52.5	8.7	11.8	5.88	0361
	0.75	58.7	7.7	71.0	15.8	14.1	6.25	0362
	0.75	56.3	6.8	74.1	16.5	13.6	7.49	0363
	0.75	51.3	5.0	83.3	18.1	12.4	13.80	0364
	0.75	43.3	3.4	69.8	14.1	9.2	48.63	0365
	0.75	37.3	2.0	56.9	11.1	6.7	-34.73	0366
	0.75	31.2	1.0	45.3	8.4	4.7	-17.47	0367
	0.75	25.5	0.3	34.3	6.1	3.3	-13.35	0368
CLIMB M.C.	0.80	61.7	8.4	54.4	9.2	12.8	5.60	0369
	0.80	60.2	7.9	75.5	17.0	15.2	6.46	0370
	0.80	57.3	7.1	80.6	18.1	14.6	7.91	0371
	0.80	52.3	5.1	86.4	18.2	12.8	17.06	0372
	0.80	45.1	3.4	70.3	14.5	9.3	-459.88	0373
	0.80	38.1	1.9	57.9	11.1	6.7	-22.98	0374
	0.80	31.9	0.9	42.8	8.2	4.8	-13.97	0375
	0.80	26.2	0.1	35.5	6.2	3.2	-11.21	0376

DETROIT DIESEL ALLISON DIVISION | EDR 9776 | GENERAL MOTORS CORPORATION

PD370-41 TURBOPROP

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

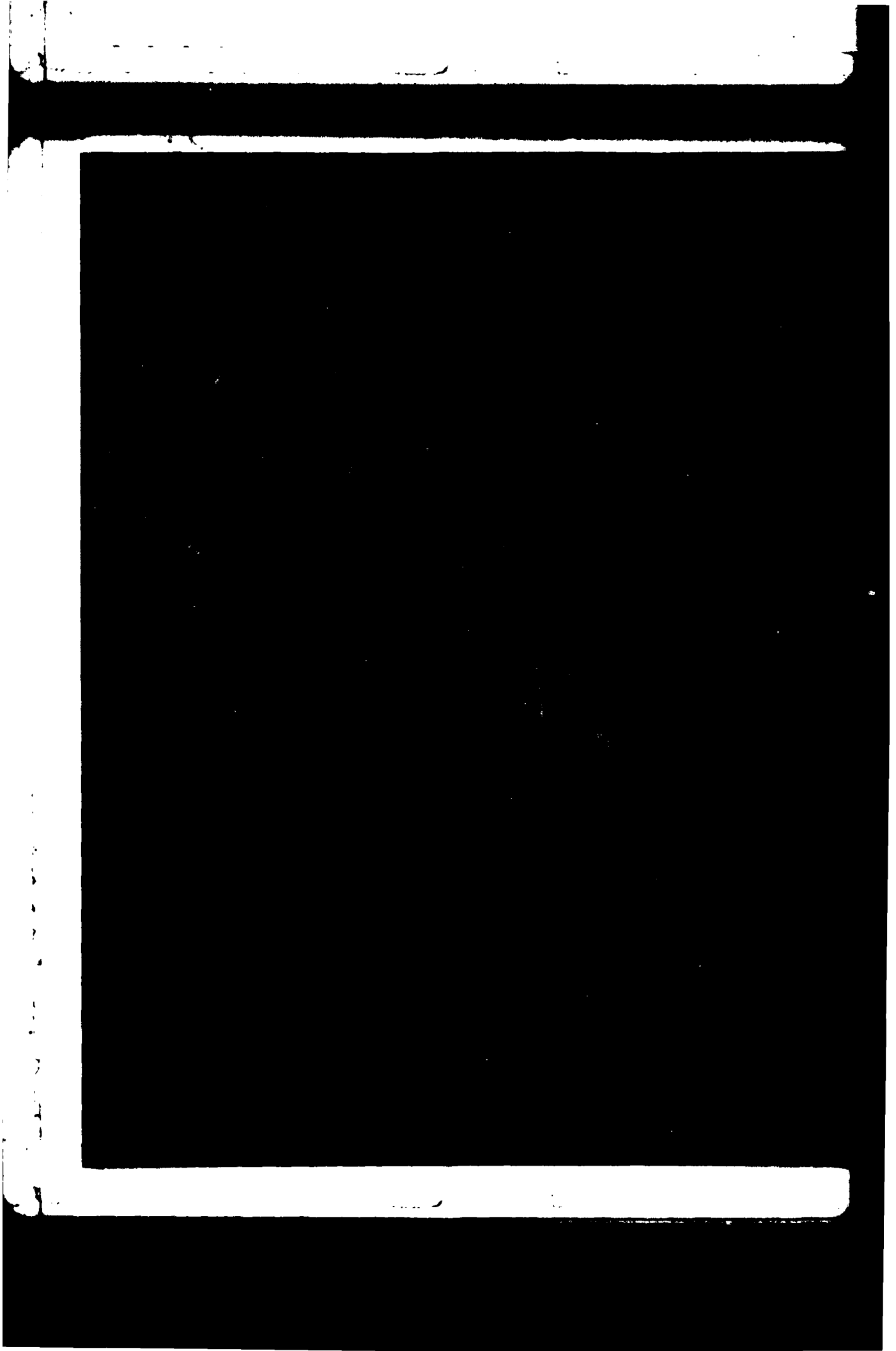
40000 FEET ALTITUDE

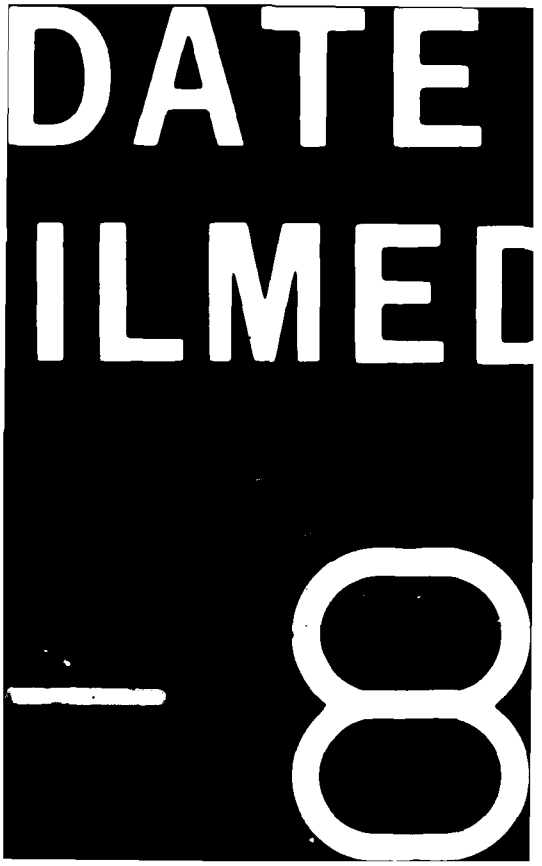
POWER	MACH	PER PCT INLET REC DEL SHP	PER PCT INLET REC DEL FN	PER PCT BLEED DEL SHP	PER PCT BLEED DEL WF	PER PCT BLEED DEL FN	K	NO
CLIMB	0.50	37.8	4.8	33.8	5.5	6.4	6.02	0377
M.C.	0.50	37.8	4.8	33.8	5.5	6.4	6.02	0378
	0.50	37.8	4.8	33.8	5.5	6.4	6.02	0379
	0.50	36.8	4.3	48.2	10.1	7.5	7.09	0380
	0.50	32.0	3.1	52.2	11.1	6.9	10.95	0381
	0.50	27.5	2.3	42.7	8.7	5.1	22.61	0382
	0.50	22.4	1.5	33.6	6.6	3.7	89.18	0383
	0.50	18.2	0.8	24.8	4.7	2.5	-88.57	0384
CLIMB	0.60	40.4	5.1	36.1	6.0	7.2	6.23	0385
M.C.	0.60	40.4	5.1	36.1	6.0	7.2	6.23	0386
	0.60	40.4	5.1	43.1	8.3	8.1	6.23	0387
	0.60	38.5	4.2	55.1	11.8	8.5	8.43	0388
	0.60	33.7	3.0	53.7	11.3	7.1	15.94	0389
	0.60	28.1	2.0	44.1	8.9	5.1	58.46	0390
	0.60	23.3	1.2	35.0	6.7	3.7	-70.81	0391
	0.60	18.7	0.6	25.8	4.8	2.5	-28.59	0392
CLIMB	0.70	45.6	5.8	39.3	6.3	8.4	6.12	0393
M.C.	0.70	45.6	5.8	39.3	6.3	8.4	6.12	0394
	0.70	43.7	5.4	53.7	11.7	10.1	6.73	0395
	0.70	39.8	4.1	61.3	13.4	9.4	10.63	0396
	0.70	34.9	2.9	55.0	11.4	7.4	29.21	0397
	0.70	29.2	1.7	44.8	8.9	5.3	-94.75	0398
	0.70	24.1	0.9	35.3	6.7	3.7	-24.40	0399
	0.70	19.9	0.4	26.9	4.8	2.6	-16.60	0400
CLIMB	0.75	46.2	6.1	41.0	6.7	9.2	5.92	0401
M.C.	0.75	46.5	6.2	55.4	12.4	11.1	5.96	0402
	0.75	44.1	5.6	57.1	12.5	10.9	7.05	0403
	0.75	40.3	4.1	65.2	14.3	10.0	12.31	0404
	0.75	35.4	2.9	56.0	11.5	7.5	51.84	0405
	0.75	29.7	1.7	45.5	8.8	5.3	-40.03	0406
	0.75	24.9	0.9	36.3	6.8	3.8	-18.29	0407
	0.75	20.5	0.3	27.6	4.9	2.7	-13.67	0408
CLIMB	0.80	47.7	6.5	42.3	6.8	10.0	5.64	0409
M.C.	0.80	47.6	6.3	58.1	13.1	11.9	6.13	0410
	0.80	45.4	5.7	60.8	13.5	11.7	7.41	0411
	0.80	41.9	4.3	67.9	14.8	10.6	14.70	0412
	0.80	36.9	2.7	56.7	11.5	7.7	231.27	0413
	0.80	30.5	1.7	46.5	8.9	5.5	-25.56	0414
	0.80	25.7	0.8	37.1	6.9	3.9	-14.52	0415
	0.80	21.0	0.1	28.4	5.0	2.6	-11.33	0416

SENSITIVITY DATA FOR BLEED, INLET RECOVERY, AND EXHAUST DUCT LOSS

45000 FEET ALTITUDE

POWER	MACH	PER PCT INLET REC DEC SHP	PER PCT INLET REC DEC FN	PER PCT BLEED DEC SHP	PER PCT BLEED DEC WF	PER PCT BLEED DEC FN	K	NO
CLIMB M.C.	0.50	29.8	3.8	26.5	4.3	5.0	6.02	0417
	0.50	29.8	3.8	26.5	4.3	5.0	6.02	0418
	0.50	29.8	3.8	26.5	4.3	5.0	6.02	0419
	0.50	28.8	3.3	31.9	7.9	6.0	7.08	0420
	0.50	25.7	2.5	41.7	8.7	5.5	10.98	0421
	0.50	21.0	1.7	33.2	6.8	3.9	22.82	0422
	0.50	17.6	1.2	26.3	5.1	2.8	89.25	0423
	0.50	14.3	0.6	19.3	3.7	1.9	-88.65	0424
CLIMB M.C.	0.60	32.1	4.0	28.4	4.5	5.7	6.23	0425
	0.60	32.1	4.0	28.4	4.5	5.7	6.23	0426
	0.60	32.1	4.0	28.4	4.5	5.7	6.23	0427
	0.60	30.3	3.4	43.8	9.3	6.9	8.41	0428
	0.60	27.2	2.4	42.0	8.6	5.5	15.96	0429
	0.60	21.7	1.5	33.9	6.8	4.0	59.62	0430
	0.60	18.0	0.9	27.0	5.2	2.8	-70.62	0431
	0.60	14.7	0.5	20.1	3.7	2.1	-28.94	0432
CLIMB M.C.	0.70	34.9	4.5	31.9	5.5	6.7	6.13	0433
	0.70	34.9	4.5	31.9	5.5	6.7	6.13	0434
	0.70	34.4	4.3	42.1	9.2	7.0	8.73	0435
	0.70	31.6	3.3	48.6	10.6	7.5	10.59	0436
	0.70	27.3	2.3	43.2	9.0	5.7	29.78	0437
	0.70	23.0	1.4	35.3	7.0	4.2	-94.46	0438
	0.70	19.3	0.8	28.1	5.2	3.0	-24.59	0439
	0.70	16.0	0.3	21.5	3.9	2.1	-16.68	0440
CLIMB M.C.	0.75	36.2	4.8	32.4	5.4	7.2	5.93	0441
	0.75	36.5	4.8	43.7	9.7	8.8	5.97	0442
	0.75	35.1	4.4	49.3	10.0	8.6	7.04	0443
	0.75	32.3	3.3	51.8	11.3	8.0	12.27	0444
	0.75	28.0	2.3	44.0	9.0	5.9	51.54	0445
	0.75	23.4	1.3	35.7	7.0	4.2	-40.71	0446
	0.75	19.6	0.7	28.5	5.4	3.0	-18.30	0447
	0.75	16.1	0.2	21.8	3.9	2.1	-13.65	0448
CLIMB M.C.	0.80	38.0	5.2	33.5	5.6	7.9	5.63	0449
	0.80	37.4	5.0	45.7	10.3	9.4	6.13	0450
	0.80	36.1	4.5	48.0	10.8	9.2	7.41	0451
	0.80	32.8	3.4	53.6	11.5	8.4	14.65	0452
	0.80	28.4	2.1	44.7	9.1	6.0	229.01	0453
	0.80	24.0	1.2	36.4	7.0	4.3	-25.46	0454
	0.80	20.3	0.7	29.2	5.4	3.1	-14.52	0455
	0.80	16.5	0.1	22.3	3.9	2.1	-11.32	0456

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